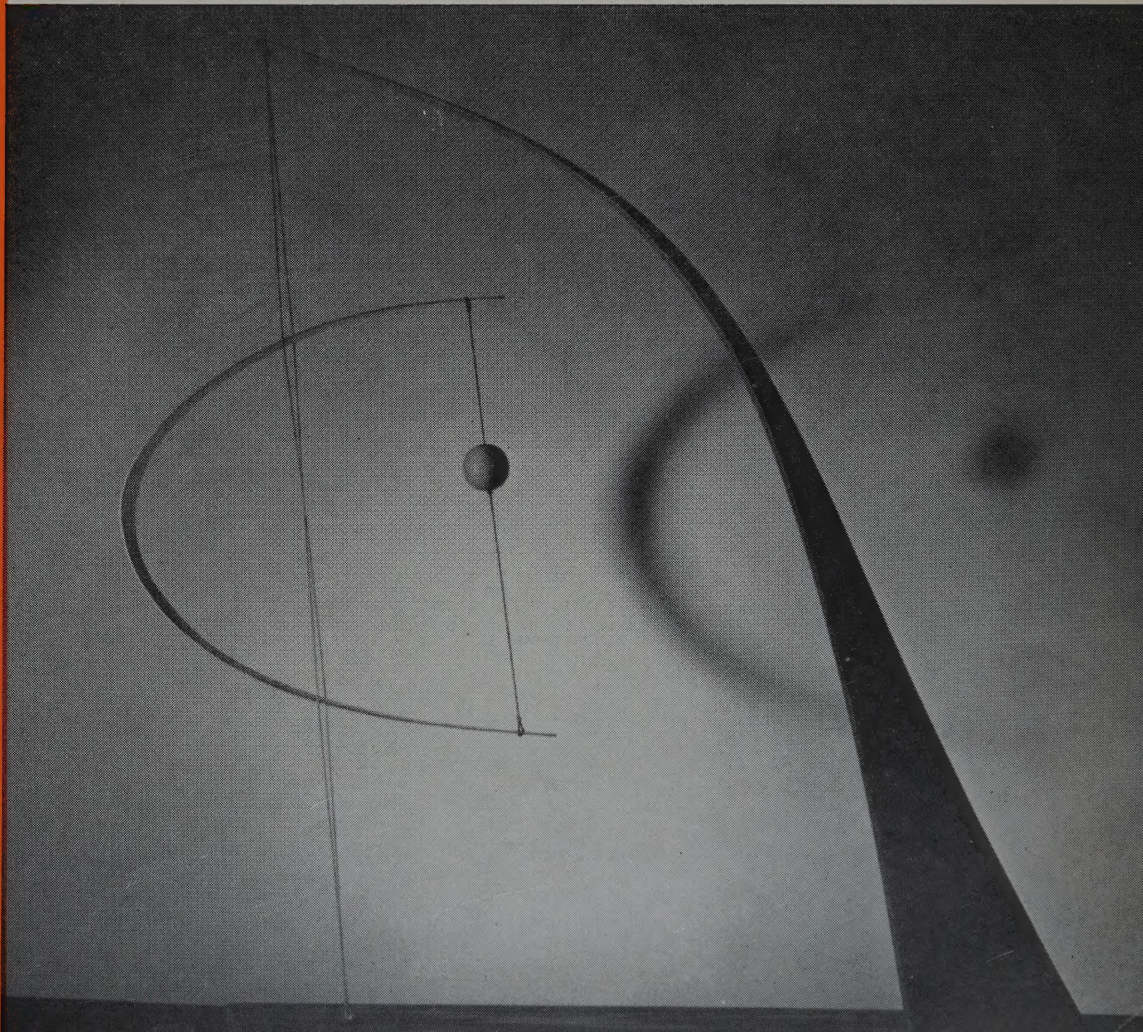


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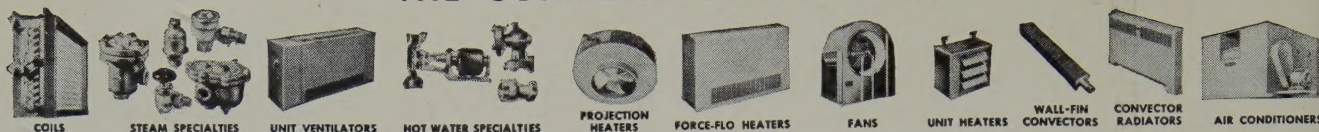
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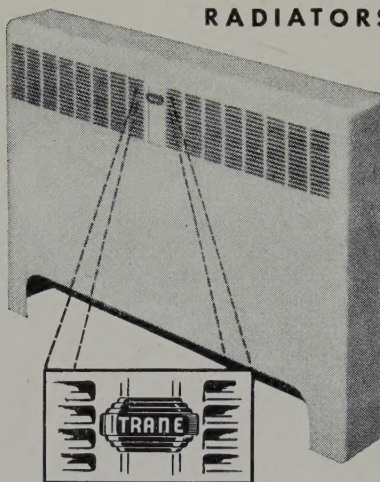
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JOURNAL R. A. I. C.

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" . . . So the university of Mr. Ezra Cornell, a really noble monument of his munificence, yet seems to rest on a misconception of what culture truly is, and to be calculated to produce miners, or engineers, or architects, not sweetness and light." These words were written by Matthew Arnold in "Culture and Anarchy" in 1869 and were flung in our face by our daughter eighty years later. In so far as architects are concerned, they have never appeared in such sharp focus as at the present time. Especially, in the daily press and in the architectural magazines of Great Britain is the subject of architectural education, as distinct from architectural training, a live issue.

WE have not read the contents of this issue and do not presume to speak for all Canadian schools. However, no architect, whether in academic work or in practice, can ignore the radical change that is sweeping over the professional schools. The change is least marked in the architectural schools. Before the war, Architecture, Medicine, Law, Dentistry and Engineering all provided a training, but not an education for their undergraduates. In architecture, design occupied from eight to twenty-four hours a day, and the kindred subjects of structure, mathematics, plumbing, heating and history were fitted in as lecture periods in the curriculum. No time was available for reading, except cramming, and any subject that would not find a place in the limited intellectual field of the "office" was considered irrelevant. In a hotbed of design, there was no place for leisure, no place for intellectual discussion, and no place for those studies that a university can provide for the intellectual development of the educated, as opposed to the technically trained, Canadian. The reasons for such a situation are many. We are not a profession with great traditions in education, especially on this continent. As recently as 1800 in the U.S., the architect had hardly emerged from the building trades as a professional man. We know, by their publications, of two architects of that period who proudly signed themselves "architect and stucco worker" and "architect and carpenter". The schools are still more recent, and, even today, the bulk of our professional group received its training in offices or technical schools. Many of them were the worthy and distinguished founders of our schools, and their influence at the beginning, was all in the direction of design through the orders, building construction and plumbing and heating. The "unpractical" was taboo, and the humanities were more remote than astronomy which might be useful in surveying. In some courses a semblance of culture was indicated in the curriculum by "English", but, in practice, even that was degraded to the writing of reports—sometimes from a mine manager to shareholders.

WE first heard of the change which is coming over the professional schools when we were "investigated" as a faculty of engineering and architecture before the war. We were found to be lamentably low on the "cultural" side. If we remember correctly, we had, as a faculty, a doubtful 2% of courses of a cultural nature, and were amazed to find that one engineering school in the United States devoted 25% of its time to such studies. The revision of the curriculum in the faculty as a whole was not marked by sweeping reductions in time given up to technical subjects, but philosophy, world history, economics and political science were added, and were made obligatory for the architect undergraduates. That, in our opinion, only scratches the surface, and can be effective only if time is allotted for reading, and a proper study of the cultural subjects involved.

IN the Toronto University School of Medicine two years are spent in the Humanities in the Arts Colleges before students may proceed to the professional course, and in Dentistry one year is spent in the same way followed by four in the professional course. In our humble opinion, we shall, in time, see the same changes in our architectural schools, and the pressure for it will come, as it did in medicine and dentistry, from the professional group. It is surely idle to argue that ours is a more "practical" profession than medicine. The skilled hand, the trained eye and the reasoning mind are equally essential in medicine as they are in architecture. Intellectual curiosity, an appreciation of literature, a knowledge of history and of government can hardly be acquired in the present architectural curriculum. Medicine and dentistry obviously think them very important. We can be, and are, "practical" in the practical subjects to a degree not dreamt of by the older architects. Our students work as labourers, they lay bricks and do carpentry. On the other hand, only a minority have any intellectual interests, and quite a few have a knowledge of the English language and an ability to write it that would be pardonable only in a very displaced person. We are definitely low on "sweetness and light", though the contents of this issue will, no doubt, indicate improvements in the future.

Editor

ON ARCHITECTURAL EDUCATION

By FRED LASSERRE

"No great architecture can exist without emotion. When architecture is reduced to a mere intellectual exercise, it is sterile."

"Architecture is an intensely human thing. It lives by the very passions that stir the human heart. It is these very passions taking visible form. It cannot be created by calculation alone; because if it could be objectively determined by calculation, it would not be art but mechanics. And art is higher than mechanics; Professor Einstein himself said that 'some great work of literature or music matters more to us than any scientific theory'. Thus, though the architect must have the clear analytical mind of the engineer, he must also have the insight and power of expression of the artist. The value of his work resides in the relation it bears to life."

THESE warm passages are quoted from the Penguin Book, which unfolds with more beautiful clarity than any other book recently published the inner vital qualities of architecture, past and present. The book is "The Englishman Builds" and its outstanding author, Ralph Tubbs, concludes with this parting message:

"Architecture is not sinks and fitted furniture

When passion so fires the use of inert materials
that they touch our deepest feelings
That is architecture."

No architect can quarrel with Mr. Tubbs' statements. To quarrel would entail quarreling with man's greatest cultural achievements, with Beethoven's Ninth Symphony, with Shakespeare's Hamlet, with Rodin's "Thinker".

When we start discussing the type of education which is required to produce a great architecture related to the spiritual, artistic and social climate of our day, we find less agreement. A mastery of the potential of contemporary technology seems to be a generally acceptable goal for a portion of the architect's training, but how is this to be applied and integrated so as to produce a work of passion? What is the best place where the student may prepare himself to convert inert materials into socially useful works capable of stirring man's deepest emotions? How should history of architecture, design, structural engineering, building construction, aesthetics, taste, planning and all other subjects be taught? Should they be taught, or should the student merely be stimulat-

ed to learn and to carry out research? How long should a student study or be apprenticed? How much practical training, if any, does he require before he is considered competent as an architect whose work will touch man's innermost feelings?

After outlining many of these puzzling problems at the 1948 convention of the Association of Collegiate Schools of Architecture, Kenneth Johnstone said:

"If we had to define this condition in one word, the answer would be 'confusion'. Obviously, we are not in agreement on the fundamental objectives of architectural education. Unfortunately, no one can do anything about it but ourselves. Furthermore, since we as a group are largely responsible for the education of the next generation of architects, we certainly cannot pass over it lightly.

"This is not a plea for 'standard minima', but it is a plea for clear thought on questions that are vital to all of us and to the profession as a whole.

"Academic education uses only a few years of a professional career. But the habit pattern of professional thought is set during these early years. As educators, we have in our power the creation of young men and women who will grow in professional stature throughout their professional careers. Or we have the power to create professional cripples."

The confusion in Canada is no less than it is in the United States, in England, in Europe and even in Soviet Russia where a re-orientation away from the present "formalism" in both architecture and schools is being urged. The confusion here is relatively unified in that the McGill, Toronto, Manitoba and U.B.C. Schools have similar types of courses, and, at the same time, their curricula are being constantly revised in one way or another with changes in emphasis. Nevertheless, in Canada we find in the Schools and in the Profession a need for clear thought on the basic question of "What type of education for what?" We may well start with Mr. Tubbs' basic definition of Architecture as the goal, but we must find out how to reach it.

Perhaps we should not have Schools of Architecture whose confused gropings are producing what some call slick manipulators of materials and structure, or what others call long-haired organizers of space and organic structures. An apprentice system, a technical building

school, a master-studio, or a free modern academy or institute, are alternatives which might be substituted.

Many of us feel that a most unfortunate condition exists, particularly on this continent, for our cultural welfare — a condition whereby a School of Economics seems to be the rightful place for the training of architects. The graduate is expected to be "practical" with a sound business knowledge and sales ability. He must be a fast worker, capable of turning out a complete set of working drawings over a week-end. Time means money — it also means quality in design — and to-day money wins out. Buildings are thought of in terms of revenue and money standards. Again we can agree with Ralph Tubbs as he writes:

"Architecture demands a different set of values from those that can be assessed on a balance sheet. It cannot thrive in a world that judges in terms of quantity, and whose final judgment is based on money standards." "Art can only be justified by an inner conviction — a deeprooted belief in the supreme value of giving time and devotion to achieving the highest expression of human personality."

These "economic" demands of architectural practice form a necessary but trivial part of an architect's training, though we must recognize that at the basis of our culture to-day we find the double entry ledger as the greatest influence on architecture — mostly to its misfortune.

The dominant patron or client of the architect throughout history has determined the quality of architecture at the time, whether he was Pharaoh or priest, merchant or prince, industrialist or dictator. The training of the architect was under the patron's general authority, and in many cases under his direct guidance; one of the latest examples being Mussolini's decree favouring a specific type of architectural education.

As the individual patron or client became less dominant, as the political and economic rulers of a country became more and more numerous, education of architects and artists followed the same fate as the arts themselves. Art and architecture became detached from the dominant and responsible leadership of the ruling patron and began to live by themselves, offering what they had on the open market to irresponsible though well-intentioned individuals.

It was at this time that the academies were created, and that architectural education became centred around the formal learning of historical forms, or of sets of aesthetic rules. The architect gained no vitality from his clients, and he was divorced from the sense of cultural responsibility which his former clients and patrons had.

Architects became involved in a battle of styles which has not left us yet. Instead of learning and practising

the styles of the past, we are to-day obsessed by the study of technical and engineering achievements, regardless of their intrinsic social and human values. We have developed a new architecture largely based on these achievements which is as rigid and stylistic, with much less human warmth and charm than most of the now unpopular eclectic architecture.

The Academies, from which sprang the Beaux Arts approach to design, reached their apex of monumentality in escapism at the beginning of the century, and especially during the fabulous nineteen-twenties. From this world of solid and disciplined phantasy we revolted. We became functional, space conscious, structure and material worshippers. Arrogantly disdainful of any mention of aesthetic theory or beauty which could not be translated into the credit side of the double-entry ledger, we became "practical" and "realistic". Architects and the building public expect graduates from the schools to be fully qualified men with experience and know-how, and very little else. It is handy if he has a bit of a flair for design, but this is not essential.

Ever since the industrial revolution and the democratic revolutions in France and throughout the western world, last century, we have seen the emergence of a new client for the architect and the arts.

Largely through the ballot box and through their own initiative, the enlightened democratic masses have spurred the growth of government agencies at all levels of administration. At first these were more protective in character (jails, fire halls) but later the majority became of a social and administrative character (schools, hospitals, welfare, administration, etc.) Also the control and direction of industry and business has largely passed from the hand of single individuals to that of boards of directors and share-holders or co-operatives.

The architect's new client for the buildings erected by government, board of directors or co-operatives has become very important and will become increasingly so. Every war, a period of crisis when the common good becomes of uppermost concern, stimulates government participation, or active participation by the people for their own welfare. Whether we like it or not, we who are at the least socialized end of the western world must see that the social trend everywhere is towards this greater degree of participation by the people for the people. England has gone a long way in this direction, while Russia, of course, has presumably reached that end if we are to believe facts made available by them.

The employment of architects in various countries by one form or another of the people's representatives varies in direct relation to the degree of socialization. A year ago, in this issue of the *Journal*, Mr. Leonard Shore stated that 60% of the architects were in private practice. I would submit that to-day architects employed by gov-

ernment, by industry and business, and who practise by the grace of a retainership, form more than 50% of our profession. A further large percentage obtain work from government and other anonymous public bodies.

The individual client, with his own personality and characteristics, is now replaced to an ever increasing degree by an anonymous being — the common man, the average John Smith for whom that particular building problem is to be solved. This is the new client, the man for whom the architect builds, to whom the architect owes a responsibility, and who is the authority over architectural education.

The story of contemporary architecture and art in the Soviet Union is a most enlightening story; they call it "social realism". It is the story of that authority of the people, of the common man who is not a great intellect but who has loves and hates, a man of passion. There is nothing sinister about this aspect of Russia, and it is something for artists and architects to study and learn from. Just as kings would banish the artists who displeased them, in Russia the new rulers — the people — said what they wanted, what their passions demanded, and they are getting it. It is their human right.

How often do we stop to think of our responsibility towards our anonymous client? How many passions have we frustrated, how many exhilarating moments have we killed in the "common man" for whom we are designing? We tell him that this or that design is the correct thing for him, and it is cheap. He wanted color, texture, modulation, sculpture and space vibration. He got a wall of glass, a wall of brick, a flat roof, space and a terrazzo-lined wash room.

The training of the student, who is going to render architectural service to this new anonymous client, to the government or the board of directors, should be directed towards developing a responsible servant of the people. He is naturally expected to have high design ability, and the capacity to assert beauty. What the new dominant authority has the right to request of the education of architects is that it produces reliable experts out of those having this ability and capacity.

These experts are recognized for their training in the co-ordination and integration of our physical and visual environment, carried out as a social art directed to serve basic human physiological and psychological ends — not any individual personal ends.

The materials and tools the architect uses and which the student must study, the product or our contemporary science and technology, are not the goals of his practice or his study — they are merely the goal posts. Students when they graduate should be experts as organizers, not as technicians — as planners, not as draughtsmen — as designers, not as builders.

In my opinion there is only one place where this

scientifically framed humanistic education may be effectively carried out, and that is in the Universities. With high standards being set at our Universities it is known that the graduate will be an expert in those specialties which comprise the service he will render to his fellow men in the buildings and the communities which form their daily environment.

The following table will show the situation in Canada at present with regard to architects and to student associates or apprentices who are planning to enter the profession after the passing of provincial examinations.

	Architects (resident)	Student Associates or Pupils.
Nova Scotia	30	16
New Brunswick	11	1
Quebec	401	none
Ontario	483	23
Manitoba	54	6
Saskatchewan	13	10
Alberta	37	6
British Columbia	87	59

While some of the figures for student associates are estimates by provincial associations who have not registered them, they do indicate a direct relationship to distance from a school of architecture. In British Columbia the school is a new one and its standards will have to be largely met by the student associates before admission to the profession. This table would indicate that a real dis-service would be rendered to a student if he was advised against going to one of the schools. Of course, there are always exceptions but these are for the men bordering on genius who would make a contribution regardless of their background.

Alfred Roth, well-known author (*New Architecture*) and architect (*Doldertal Flats*) has written on *Architectural Education* in that excellent survey of architecture and architectural thought, the *Architects' Year Book*, No. 2. His conclusions are that the University School, the Public Technical School and Apprenticeship are generally unsatisfactory systems of education. He favours the free modern academy such as the Bauhaus was, and alternatively the master-studio as exemplified by those of Perret, le Corbusier and F. L. Wright.

Roth makes two basic errors. First, the Schools of Architecture in America and Canada, at least, are largely guided by the teaching pattern of the Bauhaus. Dr. Walter Gropius, its founder, is now head of a School very similar to ours in Canada, and it is producing many of America's best architects.

Secondly, the master studios he refers to are fine post-graduate experiences, and it is mostly graduates who go to these studios. The schools are to-day bringing in visiting "masters" to establish dynamic contact with the students.

(Continued on page 172)

UNIVERSITY OF TORONTO

SCHOOL OF ARCHITECTURE

THE idea of getting the Canadian Schools of Architecture to write about their aims and methods of teaching is a good one. We may learn something from each other in the solution of common problems, and we may provide a good laugh for those who read these pages twenty or even ten years from now. It is unlikely that the curricula of Canadian Schools of 1969 and 1949 will differ as much as those of 1949 and 1929, but even so the comparison will be marked. At no time, in the period in which a formal training has been given students in Architecture, have so many difficulties presented themselves as the present. In the experience of many now teaching or practising their profession, all methods of training sprang from the Beaux Arts in Paris. A few independent souls like Mr. Frank Lloyd Wright might take a course in Civil Engineering and study later with lieber meisters like Lewis Sullivan, but such a course of action was rare. The alternative system (since this paper deals with schools of architecture, I do not refer to the apprenticeship system) was that of the Beaux Arts which went unchallenged in many schools till perhaps a few years before the late war. It remains unchallenged in many institutions in the United States. As we understood it, perhaps improperly at such a distance from the Rue des Beaux Arts, architectural design was a weighted, highly competitive subject occupying anything from six to twenty-four hours a day with parallel lines devoted to the history of architecture, building construction, sanitary science and theory of design. Any integration of these subjects with design was accidental except in the case of history. A thorough knowledge of the Pantheon in Paris or Rome, or the Mausoleum at Halicarnassus was a handy thing to have in design and might bring distinction on the student and the school in the winning of a Paris or a Rome Prize. Theory of design was largely Gromort cum Vitruvius and the examples were necessarily classical. A graduate with means could set up practice with three books — Charles A. Platt for residential inspiration: the monograph of the works of McKim, Mead and White for a wide variety of building types: and d'Espouy for casual

display in a location where a client would see it; for competition purposes and for browsing through in the hope that some day a temple of the Scottish Rite or a Railway Station would come into the office.

Schools of Architecture in Canada, till about 1935, were manageable in size, and staff and students were agreed on the carrying out of a curriculum that had the blessing of the best schools in Britain and the United States. We were as blissfully unaware of revolutionary changes that were taking place in France, Germany and Austria as we were of the significance of the structural developments in the 1880's in the United States.

How different is the picture today. The old gods are found to have feet of clay, and their works are but as sounding brass and tinkling cymbals. We live in an age of transition not only in Architecture, and, as though that did not produce sufficient problems, we are faced with an enrollment that puts an almost unbearable strain on physical accommodation and teaching staff. We take some pride in Toronto, though others must share our experience, that for fifteen years at least our curriculum has been far from static and changes have accelerated in the last decade. We welcome and have even organized and encouraged briefs from students represented by years, and briefs by staff committees combining methods of teaching and content of lecture courses are annual and frequently bi-annual. A standing committee of staff and students (a representative from each of five years) meets fortnightly and discusses without restraint a wide variety of subjects including the teaching of design and the curriculum in general. It can be guessed that from so alert a group recommendations of a far reaching character including the appointment of staff and the deletion of courses have been received, and, after consideration at a higher level, acted upon. A study of the minutes would indicate the high level on which discussions take place, and the seriousness with which students approach the problems of the School.

The Schools of Architecture cannot help but note the increasing interest in the humanities that is apparent in other professional schools. In at least one engineering school in the U.S., 25% of its courses are of a cultural nature. Medicine in Toronto has a two year course in the humanities before entrance to the medical course proper, and for many years a three year course in arts has been the most desirable method of entrance to the law school. It need hardly be argued that the student in law or medicine or architecture would be a better technician if all his waking hours were devoted to his craft and strictly kindred subjects. He would, we believe, be a poorer citizen, and, in the long run a poorer architect, doctor or lawyer than the one who took a balanced course in which the humanities played a part. On that assumption, we have, over a period of years, introduced courses in political science, world history, aesthetics, the history of painting and sculpture and English literature. The last named comes into force in 1949-50 in the first, second and third years. In addition, we have a new course in the first year for those who, after a test in the first week, show that they require a remedial course in English grammar, spelling and punctuation. It is hoped that the course will radically change the lamentably low standard of essay writing in the early years. A familiarity with great writing in the past and present will, we trust, produce more of the writings which distinguish the late Geoffrey Scott, Kenneth Clark and Dean Hudnut from most of their contemporaries in the architectural field. Among too many of our young writers today, writing is at complete variance with their architectural theory: prolixity is preferred to brevity, and modernity and obscurity are, too often, synonymous terms. The man in the school who writes two or three books on an examination paper where one would do is not unknown in the technical

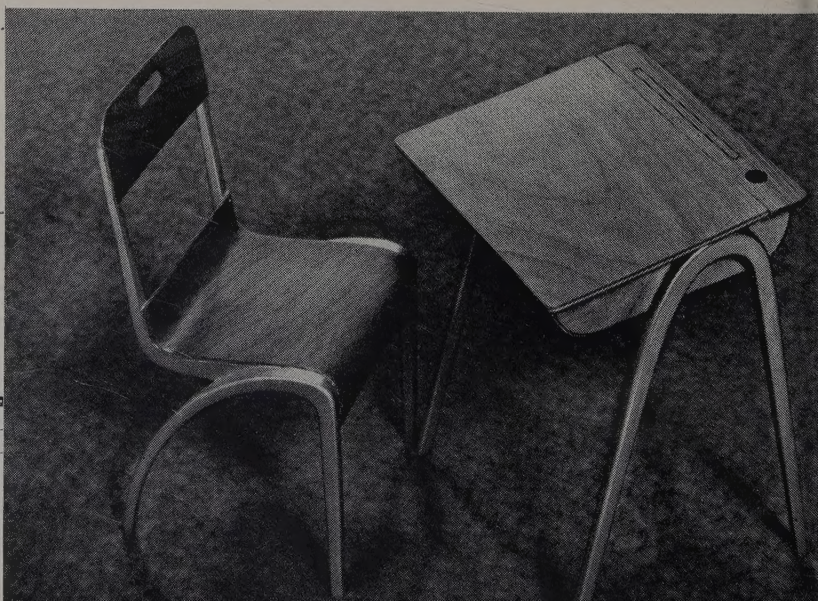
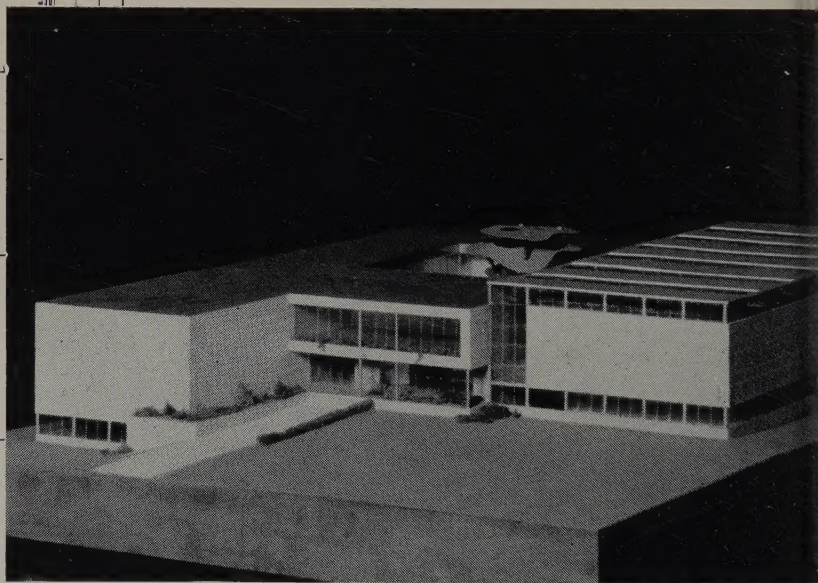
journals or the flood of books on modern design. With the assistance of the Department of English and our own essay writing, we hope to correct that tendency.

In this coming session, for the first time, we shall have a two to three weeks' course in practical building. Shop facilities and instruction are available at the Ryerson Institute and work will consist of framing in timber and of mill work. Demonstrations will be given in brick-laying and in other trades which students will attend.

Toronto is fortunate in having the support, over a long period, of the architects in private practice in the carrying out of our practical requirement of twelve months. This work is obligatory and may be spent in an architect's office. On the other hand, on-the-job experience with a contractor is recommended and four months may be spent in that way. In the same way, work with an engineer is recommended for the same period.

The School suffers from the fact that the working out of a comprehensive curriculum has to take place within a period of 25 weeks. That has come about largely through our traditional association with engineering where, of necessity, the examination periods of architecture and engineering coincided. At present the only barrier to the extension of the term is the fact that we occupy space that is required by the Registrar for examination purposes. However, the completion of new buildings will, in time, remedy that, and, so far as we are concerned, the remedy cannot come too soon. We are handicapped also in the fact that our drafting rooms are separated from the library. That is a grave handicap and one that, in tangible and intangible ways, affects adversely the work of the School.

H. H. Madill

[illegible]

TORONTO

The illustrations on these facing pages are selected as examples of studies that are integrated with design. It was felt that they might be of more interest, in so limited a space, than greatly reduced design products.

DESIGN RESEARCH

Although there is an enormous amount of contemporary architecture, the average student in Canada is not intimately familiar with it. The object of this two week programme was to broaden his conception of design and to increase his knowledge by studying details from the best modern European work. Each student was assigned a particular detail such as stairs, windows, sculpture, railings, etc., in one country and he produced three 24" x 30" sheets of sketches.

MODEL MAKING

Model making has for some time been considered an essential of design, and is required on almost all solutions. New, and methods of fabricating, using plasters, veneers and solid materials make it possible to make a model at the desk instead of in a shop. It is generally agreed that the model as a three dimensional object capable of being seen from all directions merits in the study of design that the perspective does not. In professional life, its value to a client unaccustomed to reading drawings is obvious.

HISTORY PROJECT

As a part of the instruction in the History of Architecture in the First and Second Years, a project of research into a limited aspect of historic building is given. These projects are usually presented in the form of a display sheet. The student is thus forced to read intensively but present only the essentials of his findings in as graphic a form as possible. The faculty of critical analysis and layout ability is thereby encouraged. In 1949 these projects were so assigned to 50 students that the total product was a planned Exhibition on Medieval Architecture. Some models formed part of this exhibition, one of which, on the framing methods of a medieval house, is illustrated.

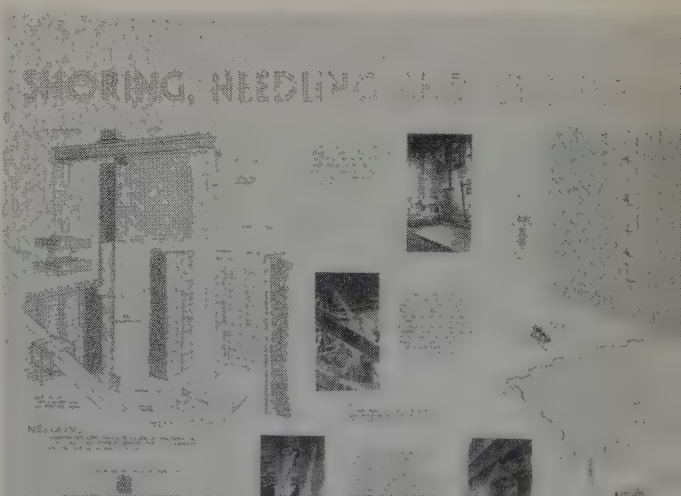
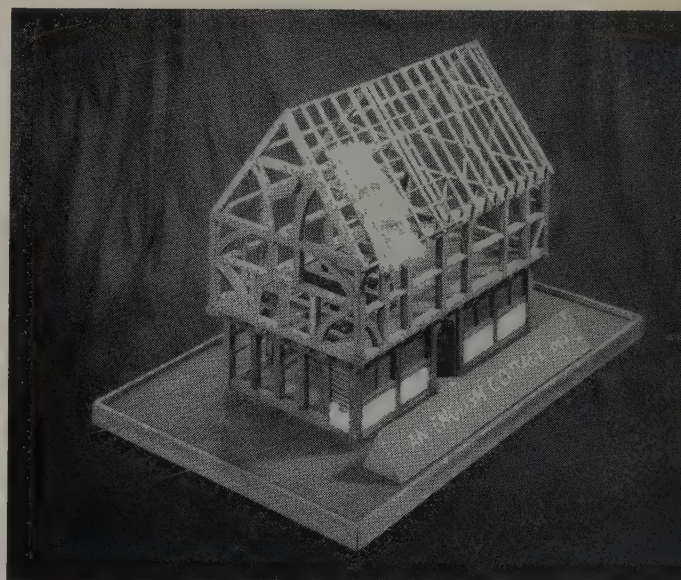
INDUSTRIAL DESIGN PROBLEM

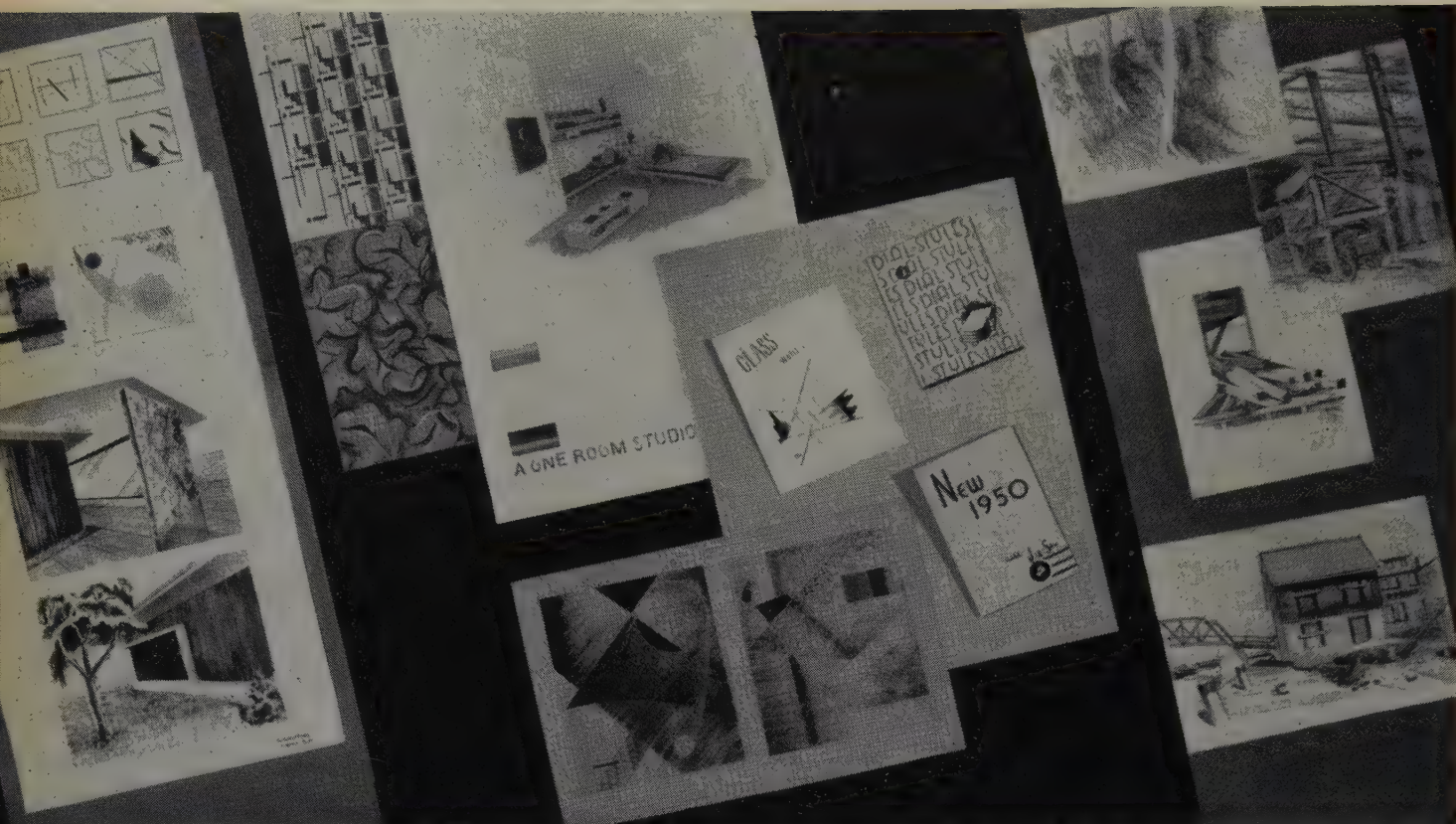
to manufactories, films and lectures informed Third students as to the potentialities of aluminum and woods. They then considered the more human requirements of children and adults, leading to the design of seating and units for schools and hospitals. These designs were presented in the form of models and drawings that included methods of fabrication. Research included visits to new schools and hospitals. Demonstrations of new equipment were arranged to take place in the School's Third Year Drafting, and these were left for individual scrutiny on the part of the students and instructors. The design of a plywood-factory followed.

MATERIALS AND METHODS

As an integral part of architectural design, the study of construction techniques and materials is carried forward by means of lectures, reports and working drawings throughout the course. During the Second and Third years the student is required to investigate individually some aspect of building construction method or material and to report in a form suitable for display. The study may involve the review of documents from research sources, trade literature and architectural journals, or the interviewing of material suppliers or contractors. Throughout the five years, working drawings and details are prepared as a part of the drafting room programme. These are usually a development of the student's own design problems.

PUBLIC SPACES LANDSCAPE OF STOCKHOLM





DRAWING AND COMPOSITION

This course performs the double function of acquainting the student with various graphic and plastic media, and of promoting an understanding of the fundamentals of design. Emphasis is placed on the growth of the individual student through participation in exercises which simultaneously train the intellectual and emotional sides of his nature. Some of these exercises are purely exploratory. They provide him with an opportunity to discover, through experimental manipulation, the possibilities and limitations of different materials. He discovers their sensory values and looks for ways of adapting his findings to the fulfilment of some practical need. These exercises are interspersed with design problems which are correlated with their other studies.

The basic course in First Year has been designed to help the student gain confidence in his own ability to draw and paint. Considerable time is given over to objective drawing and pictorial composition. The values of line, tone, texture and colour are investigated. The student is confronted with problems which afford him the opportunity of developing skills and methods of planning which can be carried over into his architectural design.

During the Second Year the characteristics and functions of line, tone, texture and colour are studied more intensively. The theory and application of colour is approached from a number of points of view. Students perform colour experiments; compile comprehensive, and often beautifully illustrated, notebooks; perform a number of exercises to awaken their own creative abilities; and they are confronted with problems which are correlated with similar problems in architectural design.

Third Year students may choose freely between two workshop groups. In one they investigate different techniques of drawing and painting. According to their individual needs and interests, they practise the use of a wide variety of media and divide their time between experimental drawing, life and objective drawing, and "full dress" presentation drawing.

The other workshop has been set up to promote an understanding and enjoyment of three dimensional design. Its aim is to encourage and develop in the student creative thinking, inventiveness and intuitive assurance of judgment. Materials such as paper, metal, clay, and wood, are manipulated freely in terms of their basic qualities. This is a new venture in the school which may, in time, become closely integrated with industrial design and model making.

Each September, Second, Third and Fourth years spend twelve days at a field sketching camp. At this camp five instructors, each representing a different approach to landscape painting, are on hand to give criticism and technical advice. Students work at their own speed and according to their own interests. They seek assistance when they need it from the instructor, or instructors, which seem most capable of supplying it. While at camp the students devote themselves to the study of natural forms, experimental compositions, exercises in techniques, or fairly representational paintings of the landscape around them.

W. E. Carswell
John Hall



DESIGN

OF the many changes that have taken place in architectural education in the last two decades, none is perhaps so striking as that in architectural design. It is no longer a subject divorced from reality, but involves the design of a building for an actual site, and sometimes for a client who, if what one hears is true, gets as much fun out of his "architect" and his "building" as does the "architect" himself. The change from the academic to the professional approach to design has brought many changes with it. It inevitably encourages research. Architects of another generation will remember the small bank problem of the second year: the site was generous, the examples ample in the U.S. magazines. Nothing more was required for a solution. Today a report is necessary as a preliminary to planning and, more than once, bewildered bankers have telephoned to ask who these young men were who questioned them on their duties, their relation to the accountant, and the latter's relation to tellers and staff in general.

In keeping with the professional attitude to design, drawings, in all cases, are prepared "as for a client". Sheets are comparatively small in size and rendering is of a minimum. No time is wasted on sky washes or "elaborate" elms or cypresses. Such a small percentage of students in any school have outstanding ability as water colourists, it seems unwise to waste the time of the rest on a skill at which they will never excel. They must all show a reasonable proficiency in perspective presentation, but, more important, they should develop a facility in model making. The dullest water colourist can make an excellent model in a short time. It has the value of demonstrating weaknesses in a three dimensional object, and it means vastly more to a client than the most expert perspective.

In this School the Professor in charge of Building Construction fills a vital role in the teaching of design, and is a member of the Design Staff. It can be said, it is hoped with truth, that no student designs a beam or a canopy without realizing its structural implications, and, in so far as is possible, with large classes, such details of a building are studied from a structural point of view as the design proceeds. The student himself gets no satisfaction in drawing a beam in section if he is unaware of its depth, and the same is true of the thickness of canopies though the temptation to show them 2" in depth is very great. One has to admit that, in the past, much student architecture was "paper" architecture and weaknesses of structure went undetected. Today the good student, no less than the staff, is on the watch for the unbuildable. The professional approach to design problems is not carried to the point of working to a price except in the case of the small house. In most other problems the student gives free rein to his imagination and is restricted only by the fact that, at a later date, his

design must take the form of a blueprint from which a contractor could build. That, of course is a thought that brings the student, occasionally, to a pause for reflection, but is one that should not depress him. Modern architecture in steel or reinforced concrete offers sufficient scope in the realm of the realizable without entering a dream world of structural unreality.

Along with other schools, Toronto suffers from the periodic peaks of intensive work which occur as solutions to problems near completion.

This is a vicious situation made more acute by the inclusion of more and more subjects like English and History requiring contemplation and reading. The remedy will be tried next year and will take the form of longer time for problems — even one or two to a term. Looking back it is realized that nothing could be more futile than the superficial study of a building of any kind in two academic weeks and nothing more fallacious than that a student can acquire a facility in design by a rapid turnover of short problems. In abandoning such a programme the last link will have been broken with the Beaux Arts. With a term to study a building thoroughly, the period of frenzy for the poor student will be limited to one occasion and, for the good student, it will be eliminated altogether.

Design, in the School, conforms to no pattern; it bows the knee to no single god. The idea of functionalism, for want of a better word, is accepted, but a functionalism that is moulded and enriched by proportion, scale and texture, and the right use of new materials and structural methods. In a changing world in which the architect is at a crossroads quite as bewildering as that in which he stood at the dawn of the industrial revolution, Le Corbusier or Wright present no panacea. They can only offer us a lantern that lights the path a little of the way. Students and staff have visited schools where an undoubted master in the modern movement imposes his theories on the work of every student, and blinkered acolytes happily conform to a stamp that will forever separate them from their fellows. In spite of its imperfections, Toronto pursues a course that is never static: one that is constantly changing through briefs from staff and students, and one where the dominant will is discarded in favour of frequently clashing ideas and personalities. Such a system presents difficulties, especially in the junior years for the less than average student who prefers a formula, but for the rest it offers opportunities for independent judgement and for the sifting of ideas as a continuing process throughout his career as a student. The successful carrying out of such a programme demands leisure and that remains the unsolved problem.

Eric Arthur

McGILL UNIVERSITY

SCHOOL OF ARCHITECTURE

INTRODUCTION

I HAVE been asked to outline in a paragraph the basic philosophy of this School in terms of the type of graduate I am attempting to produce. There are many kinds of architects and I believe there is a need for men of varying talents in Canada. Consequently in this School men with an interest in architecture are given the opportunity of developing themselves and their own interest by examining the scientific, empirical and artistic bases of architecture, experimenting in the design of buildings, reading and thinking about the history of architecture and contemporary requirements and learning the common practices of building construction. A few students enjoy all of it, but as might be expected some aspects are preferred to others simply because of different aptitudes and interests. However in my opinion a mediocre arrangement of subjects that would suit all tastes would be unsatisfactory and is therefore avoided. I realize that it is painful for the man with a flair for design to suffer the minutiae of structural calculations but I submit that it is good for his development. That is what concerns me. I believe also that the disciplines of engineering and architecture must be brought together to resolve modern building problems, accurate knowledge of new materials and scientific methods must be added to the architect's traditional and valuable rules of thumb in order that he may conceive modern structures with confidence, economy and art. Ability in meeting modern requirements and not protective legislation nor historical precedent eventually will determine who is to be called the Architect. I encourage experimentation in design hoping that students will find, in any arrangement of materials or spaces, no matter how simple, that there are opportunities for architectural composition involving light, form texture, colour, rhythm, structure and the expression of ideas. I am scornful of formalistic thoughtless academic design both old and new. I believe time spent in a university is time for experimentation, the development of good habits and self confidence. I consider apprenticeship indispensable to make a student a useful architect and that this must supplement the course and therefore free it for work which may not be immediately practical. Moreover architectural employment during the summer is valuable in making the student aware of the problems of practice, more discriminating in what the university has to offer him and far more able to contribute constructively to the work of the school. I am attempting to obtain graduates who know what architecture is, who have some skills in it and who promise therefore to be happy, well adjusted, useful citizens. I am pleased of course when a rare one shows some streaks of genius, but more thoroughly satisfied when I hear from across the country or from the West Indies or down the street that so and so is doing well.

John Bland

M c G I L L

BASIC ELEMENTS OF VISUAL DESIGN

THE EYE IS TRAINED TO OBSERVE
THE HAND IS TRAINED TO EXPRESS
THE MIND IS TRAINED TO RELATE

D E S I G N



This course is designed to co-ordinate the eye, the hand and the mind, in the basic elements of *line, shape, texture, colour, light, space, and movement*. These are explored in workshop procedure.

The relationship of each element to a given area and space is the factor that creates the design. In this way a sensitivity to general architectural design is developed in the individual's education and experience. In the structural problems in architecture, a regard for the simplicity and economy of material, in creating enjoyable spaces, is found to establish greater understanding and over-all appreciation for the importance of materials in terms of their line and shape relationship. An understanding of material produces an interest in textures, sensitivity to colour, light, shadow and movement in the spaces used by people. The ability to design architecture with the greatest satisfaction to all these human interests comes about through an enrichment of activity with the elements themselves. In this School a program of objective experiments, creative in nature, establishes a sequence of related experiences to arouse an awareness of the architect's potentialities.

Gordon Webber

SELF-IMPOSED PROJECT BY CO-OPERATIVE STUDENT GROUP, 1948

Designed wall in School of Architecture
common room.

Construction wood panels combined with
glass and metal screening; light projection
creates depth to the 3-dimension design.



DESIGN WORKSHOP 5th YEAR, 1st TERM GUY DESBARATS

Design Mobile.

Construction—plywood, aluminum, string.

To create an approach to space with movement related to the character of materials used.

BUILDING CONSTRUCTION — Second Year

Building Construction brings the student into contact with the practical problems of planning and construction for the first time, and as a result, a considerable number of hours are set aside each week for this course. Intensive study and work are necessary so that the student will receive a good working knowledge of materials and construction methods, which are part of today's complex building and planning problems, a knowledge which will also enable him to approach intelligently the construction needs of the forthcoming year's University work in more advanced building planning and design. Drafting and sketching techniques are also required and special attention should be placed on these important parts of the course, since a proficiency in these will not only help the student in later courses, but will enhance his qualifications when he makes application for employment in the offices of practising architects; particularly is this true in the second year.

In order to accomplish all this, the course of necessity must cover considerable ground. It should take up the full time allotted, be given in a way that will best assess the individual student's ability, and encourage a maximum of original thinking.

The student should be taught the use of text handbooks, material reference handbooks and correct building terminology, so that he is at once conversant with building trade functions and component names.

The student should have opportunity to observe actual building construction and material manufacturing processes, so that he can recognize first hand the restrictions which often govern and limit the use of certain products.

The student should be taught to think in terms of material, its application to specific types of construction, its suitability to building functions, and to a great extent, its overall practicability which, of course, is closely related to its economy. Here a knowledge of manufacturing processes is particularly useful. The production of machine-made building parts is quite often accompanied by certain restrictions which are either a result of the material's inadaptability for a specific job, or to an as yet undeveloped method for fabrication.

Some basic problems of building planning should be introduced during the course, in order that the student will be able to recognize and know the need for functional planning and layout as it affects the various building use problems. Typical problems might include siting, space use relationships and circulation. Small domestic assignments might be set, in order that the student be brought into contact with the physical aspects of these problems.

Analysis of good architectural design types might be carried out particularly when these types illustrate the use of contemporary construction methods, enabling the student to visualize the scale and proportion of materials in use.

In an effort to carry out the foregoing, a course has been planned which is roughly divided into two parts. The first part which deals entirely with construction is carried through first term, leaving the second term for the application of the construction detail information to problems of planning and assembly.

A series of lectures, accompanied by a set of building construction detail drawing assignments take up all of the allotted time during first term. The detail drawings will be required to be made on uniform $8\frac{1}{2}$ " x 11" sheets for loose leaf note book binding, and will be free hand scale sections, plans, elevations, isometric or perspective drawings of details which have previously been the subject of lectures. This portion of the course would require four hours per assignment out of the total weekly eight-hour period. This would include a one-hour lecture. Detail sheets would be handed in at the close of the period, and examined. Paralleling this portion of the course, and filling in the other four hours, a set of assignments requiring more elaborate details and sub-assemblies would be carried out. At this time, construction analysis from actual examples would be introduced. At Christmas time, then, the student would have a set of details in loose leaf form prepared by himself, all of which have been previously checked and noted and to which he could make reference.

By the beginning of second term, the student should have sufficient knowledge of details to enable him to proceed confidently with some problems of planning. Here the instruction in planning, circulation, etc., could be introduced. Lectures would cover these planning problems and through the medium of diagrammatic sketch plans ($8\frac{1}{2}$ " x 11" sheets), area arrangement, etc., could be worked out. This part of the course could be carried on during a four-hour period, leaving the balance of the weekly term allotment to be devoted to the preparation of a complete set of working drawings for a small house. By, or before, the term's end, the student would not only have had some instruction in planning, but would also have a set of working drawings to which he had contributed all of the drafting. These would no doubt assist him in his search for summer, or other, work.

In order to encourage the student to concentrate on his assignment, the year's work percentage might be apportioned in such a way that 75 per cent. was based on year's work, with the other 25 per cent. for examination. The assessing of the individual student's ability would be fairer and simpler.

Watson Balharrie

ARCHITECTURAL DESIGN A — Third Year

In the first half of third year the students undertook the design of a small house for a typical Canadian family, dwelling in Eastern Canada. It was understood that the client desired a house which was spacious, and flexible in use. One that was easy to clean, economical to maintain, and pleasant to live in.

The client had \$12,000.00 to spend on the house, and a unit cubic foot cost was assumed. The site plan was that of a common suburban plot. Required accommodation and minimum space requirements were laid down.

In the municipality in which the house was to be built, there were no restrictions regarding the height of the structure, nor the type or shape of roof.

No hard and fast line was drawn between design and construction, and the work was scheduled in the following manner:

DESIGN

Preliminary Sketch
Designs
Presentation Drawings
Interior Drawings
Working Drawings
Details

CONSTRUCTION

Wall Sections
Cubic Contents
Structure and Framing
Outline Specifications
Finish Schedule
Built-in Furniture

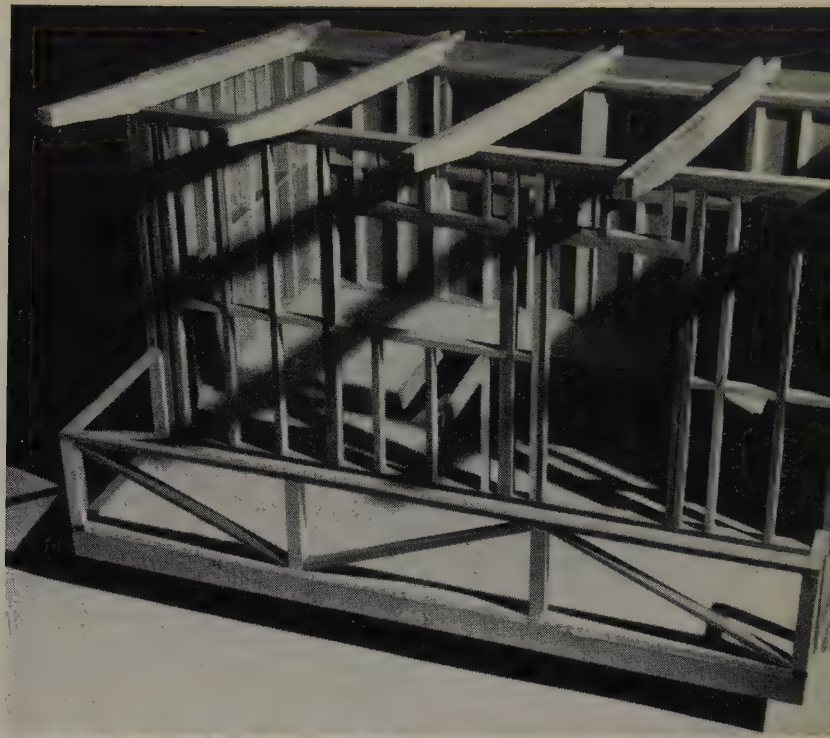
The students were free to modify design and to revise construction, as the work advanced, and as they benefited from both experience and criticism. In the second half of the year, the students were limited in time. A one day, seven hour design problem was tackled each week. Due to the severe discipline to which the students had been subjected in the first half of the year, problems, of an imaginative and stimulating nature were chosen, but related always to the Canadian pattern of living.

The student was encouraged to experiment, in order to increase his sensitivity to colour and form, and his skill at graphic presentation and in design.

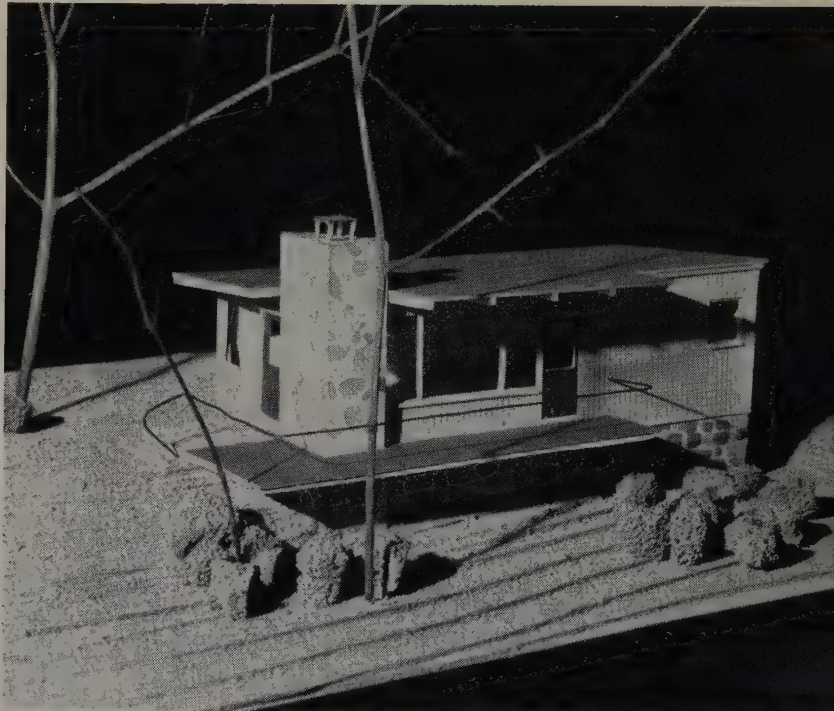
Emphasis was placed on logical planning, simple construction, and an intelligent use of materials.

Stuart Wilson

CONSTRUCTION ASSIGNMENT
1" SCALE FRAMING MODEL
2nd YEAR, 1st TERM
R. E. CASSIDY



PLANNING ASSIGNMENT
FRAME BUILDING
2nd YEAR, 2nd TERM
H. C. HEANEY



A HOUSE FOR QUEBEC
3rd YEAR, 1st TERM
KEN CARRUTHERS

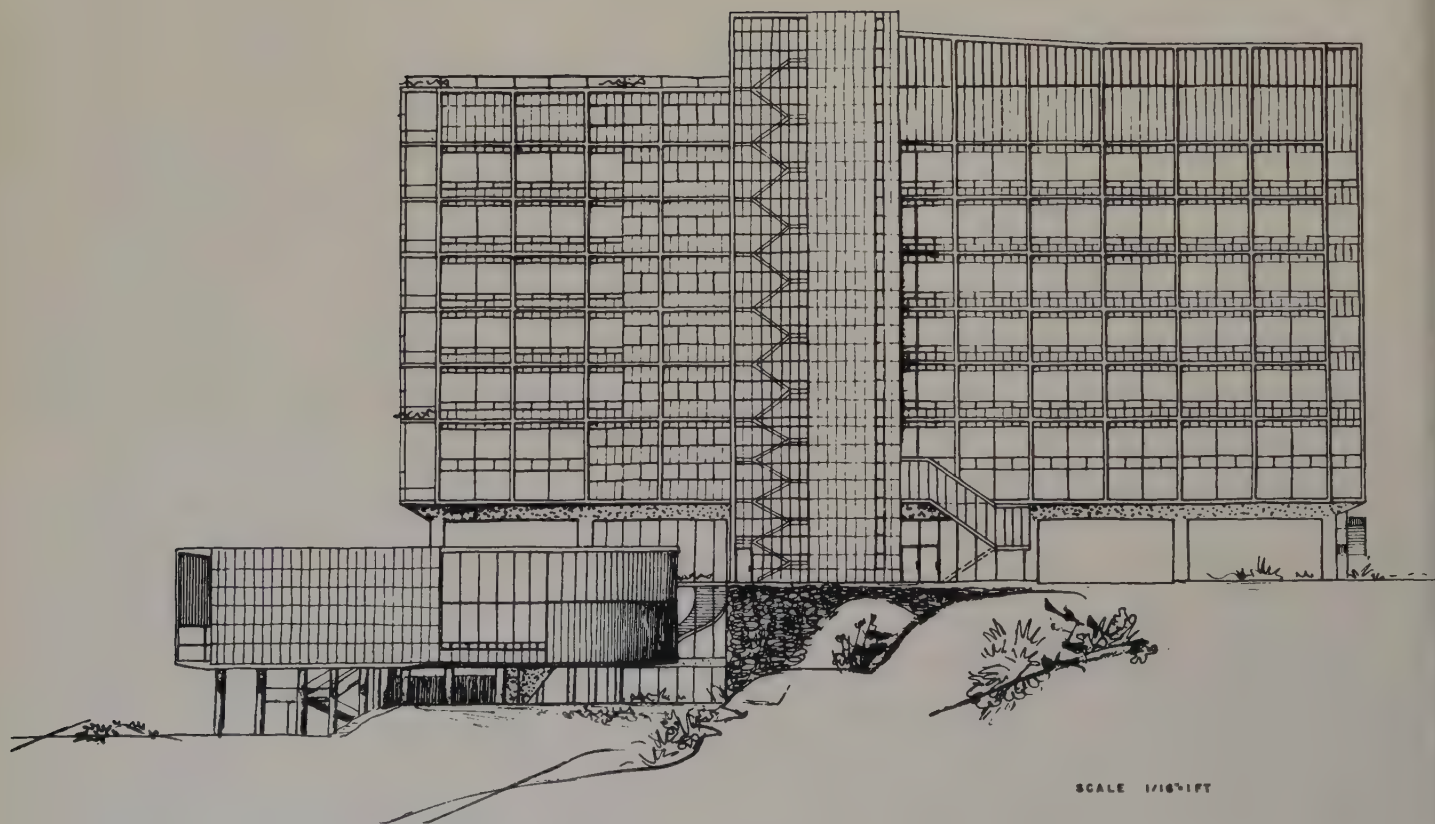
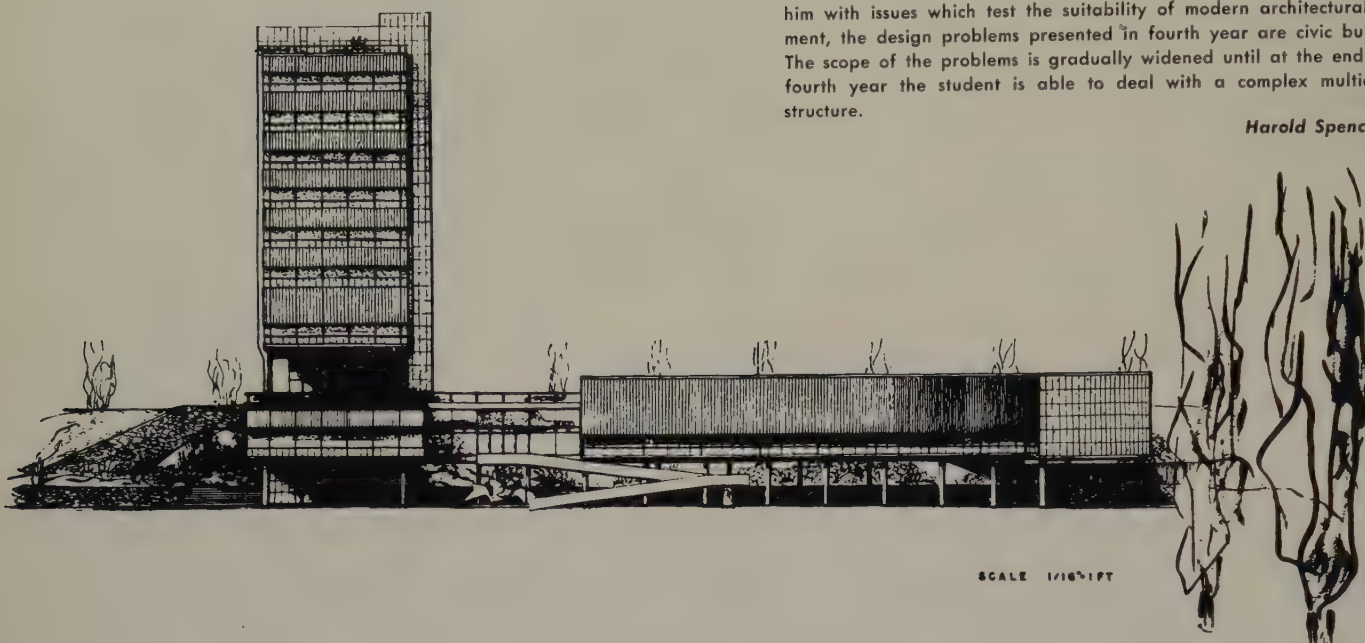


ARCHITECTURAL DESIGN B — Fourth Year

The fourth year student is free of many of the disciplines imposed upon him in his earlier years. He has acquired some familiarity with architectural form and detail—he is impatient to give rein to his enthusiasm for contemporary design.

To exercise his abilities to the utmost, and at the same time to content him with issues which test the suitability of modern architectural treatment, the design problems presented in fourth year are civic buildings. The scope of the problems is gradually widened until at the end of the fourth year the student is able to deal with a complex multicellular structure.

Harold Spence-Sales



A CITY HALL
4th YEAR, 2nd TERM
A. C. ERICKSON

ARCHITECTURAL DESIGN C — Fifth Year

The fifth year students spent the first term designing a commercial building that would be a successful speculative enterprise. A site was chosen and the project was discussed with real estate operators, building managers and structural and mechanical engineers. The local bylaws applied, limiting the height and determining some details of the construction and accommodation, unit prices for the land and the building were determined as well as the annual values of rentable areas. The figures were based upon the 1947 Office Building Exchange Report, operating costs, alterations, maintenance and decorating costs, and fixed charges, were based upon figures for office buildings in the City of Detroit, as being a city somewhat comparable to Montreal. All costs being mainly labour were reduced by 25%. The studies were surprising in two respects, firstly, the ground area coupled with angles of light decisively determines the revenue. Set-backs and towers are not economic and, secondly, the provision of an economic garage is an extremely difficult problem. Perhaps in another year more may be done on this subject.

In the second term the students worked upon their final problems. Each one was an independent study, but each was real in as much as there were definite needs, sites and clients.

John Bland

A COMMUNITY THEATRE,
5th YEAR, FINAL PROBLEM
HANKA ROSTEN



UNIVERSITY OF BRITISH COLUMBIA

DEPARTMENT OF ARCHITECTURE

EVERY phase of any design process bears a direct lesson for architecture and the qualities inherent in good design can be absorbed whether they be in a pattern, an articulated space, a sculptured mass, a chair, a lamp, a building or a street and community, and even in the layout of an essay or a descriptive geometry drawing. We place our student in contact with as much creative work and design processes as possible. He learns the components which together produce the finished design and, through analysis, study and experience, he is made to grasp the essential characteristics required of these components—of the plan, the structure and the visual elements in a building, for example.

Our first concern is to stir the student's creative passions and to free him from pre-conceptions and inhibitions. We then present the fundamental principles of good design as well as the vocabulary necessary for their interpretation.

This is a grounding which lasts through the first three years of the course, with Architecture as the principal point of reference, but by no means the only one. It is during these years that the student obtains the scientific, historical and technical knowledge required for an understanding of the principles of design. The studies include mathematics, physics, materials, processes and construction, functional needs, color, economics, historical precedents, drafting and freehand interpretations, design organization and integration technique.

By the end of the third year we expect the student to have his design vocabulary reasonably complete and under principled control, so that he may now proceed to its specialized use. All fields of design are now open to him.

Attention during the fourth and fifth years is directed to the application of design principles to Architecture. It is during these last two years that the student learns to integrate fully into complex relationships the elementary principles he has studied. He now learns how to develop a good plan, a good structure capable of practical erection or manufacture, and a good space relationship integrated and embellished to pro-

duce a design of high quality. That final design product is not left to arise ephemerally, but is tied down to the social needs it will have to fulfil, to its use by people young and old, and by the community.

The student studies the social and economic consequences of his work in housing, community and town planning, accounting, business and professional practice, commercial law and in other related courses. His designs and his developed understanding of quality in design are reviewed in terms of the basic principles he learned during the earlier years through research-type projects in structural analyses, theory of architecture and human environmental needs.

At all times subjects and particularly design problems are handled realistically—but our realism is that of basic principles and not of standards or practices which now change almost yearly.

Following graduation, the student is expected to spend another two years in offices so that he can better equip himself for practical professional work before registration. He is required to spend one year on construction and in professional or related offices before graduation. This experience brings spasmodic reality to his academic training. It is left to his post-graduation work to integrate him and his work to actual practice.

Our graduate should have confidence in a design ability which he can apply to ANY design problem, even though he has specialized in the Architectural field. The great variety of opportunities open to him may find him carrying his studies and specialization further into the fields of Town Planning, of Industrial Design, of Landscape or Interior Design, or into a limited field of Architectural Practice (schools, hospitals, housing), into Administration Work (governments, maintenance, contracting), or in Teaching and Criticism.

Our first graduates will be in 1950.

Fred Lasserre

VISUAL DESIGN

The course in Visual Design has as its primary purpose the task of awakening the student to and making him aware of the visual elements of space, line, shape, volume, mass, color and texture.

The procedure used is as follows:—one lecture hour with slides, reproductions, and demonstrations introducing the problem by going into the formal elements involved, the historical use of the element, its practical application and its theoretical value. The student is then left almost entirely on his own to search out, experiment and solve the problem for himself. He is free to ask advice and criticism from the instructor. At the conclusion of the problem, a group criticism is held, led by the instructor but endeavouring to have the students do most if not all of the talking. The instructor probes, questions, leads and sums up the criticisms. The problems

are deliberately kept at an abstract level so that the basic meanings of the space relations or lines or shapes or whatever the problem consists of can come through without other literary or symbolical meanings attached to them.

The problems are of both a two and three dimensional character and the average time allotted is nine studio hours, one lecture hour and approximately one hour of group criticism per problem.

The course gives a good indication of the student's aptitude and ability to think through and solve some of the visual elements inherent in architecture.

David Shapiro

1. Studies in basic visual design from single line to multi-line, from mono-color to multi-color, from one texture to multi-textured, from one to three to four dimensions.
2. Studies in texture, line, illusion of space, actual space, mass, modelling, freehand drawing and sculpture.



1



2

ARCHITECTURAL THEORY

This aspect of the course is covered in a number of subjects.

1. In the first year the basic elements of architecture are studied such as the physiological and psychological needs of man, social forces, orientation and other physical conditions affecting a building, the various actual parts of a building — walls, roofs, stairs, windows, doors, floors and so on. These latter are studied with a view of establishing the basic uses which each fulfils in a building and the essential qualities which each must have for these uses. For example, what is the purpose of a "picture" window and what qualities must it have to fulfil that purpose; this includes location and the whole problem of transparency as well as physical and psychological properties.

2. In the second year an important course of lectures and illustrations is given by which the student is made familiar with basic planning procedure. The qualities of good planning are studied and the students are asked to analyse buildings. Controlling planning factors are studied for the various building types as well as for a community, good examples being used as illustration. The student exercises start with analysis of function — space requirements in a single room and conclude with a full analysis of plan, circulation, structure, siting, etc., for an outstanding example of a building type.

3. In the final year, after the student has had 3 years of History of Architecture, the student follows a lecture and seminar course combined with research projects where he is asked to review in the light of social and economic factors all aspects of Design. This course has not yet been given but it is expected that an analysis of costume, utensils, painting, sculpture, tools, and other every day and cultural expressions as well as the architecture of a period will be made in the light of the social forms and means of production or technics of that time. This course will summarize and congeal the theoretical training of the student.

Fred Lasserre

HISTORY OF ARCHITECTURE

The aim of the course in history is to familiarize the student with the growth of architecture from earliest times until the present day, continually stressing the social, economic, climatic and material conditions governing the design and construction of these buildings. In this manner it is felt the students will learn to automatically analyse architecture, both old and new, not merely as a problem in design but rather as pleasant and necessary solutions to a series of complex and difficult problems. In this way they come to understand that while structural forms change, they do so only as the result of changing economic, technical and social standards and that contemporary forms in any period of history are not the result of "being modern" but are inevitably the result of a changing civilization.

The course covers a period of three years, Second Year taking the Ancient, Classic and Mediaeval periods; Third Year the Renaissance, Baroque, and period of the Industrial Revolution and the Revivals, while the Fourth Year periods are seminars on Twentieth Century work in all countries.

The books forming the backbone of the course for the first two years are *Architecture Through the Ages* (Hamlin) and *Space, Time and Architecture* (Gideon). All history periods are two hours long, the first half being lecture with the second half slides and discussion.

John C. H. Porter

ELEMENTS OF BUILDING CONSTRUCTION

This is a Second Year course taught with three prime objectives in view: essentially the lecture periods illustrate and explain the principles inherent in the various structural systems, with a view to teaching good practice in construction methods and detailing.

Secondly, the draughting room work emphasizes the unity of construction and design and impresses on the student that in the creation of architectural form he must conceive the shape and its means of physical achievement as one and the same thing.

Thirdly, he is taught to set his design down on paper in the form of working drawings with sufficient clarity and completeness for use on actual construction in the field. Emphasis is on design and details deemed suitable for local conditions.

First term begins with a study of wood framing systems, followed by a detailed consideration of all the principal construction elements, wood and metal doors and windows, hardware, surfacing materials, insulation, etc.

Second term is spent principally on the different types of masonry systems, and the walls, floors and roofs in this class of building.

The course concludes with lectures on Concrete Framing and Steel Framing systems. Contemporary trends in structure and materials are explored in their relation to new design forms, and to basic structural and construction principles.

Keith B. Davison

SECOND YEAR ARCHITECTURAL DESIGN

This is the first experience the student has in design related to buildings. He starts by exploring rather simple problems which are related to his Visual Design work during the previous year. Some of these may be of a somewhat abstract nature. He investigates the means of handling a transparency with mullions and muntins, of giving quality to a wall through use of materials, textures, and patterns, of producing effect on enclosed space by walls of different character (solid and transparent), of giving character to mass, of controlling the interpenetration of volumes and finally of organizing the growing complexity of design factors as the plan becomes more involved and the structure more demanding. Parallel to this growing experience in handling visual design factors, the student is obtaining a growing knowledge of planning procedure (Theory of Planning) and a thorough grounding in building materials and construction with working drawing exercises based on the designs. Finally at the end of the year planning and construction are brought together as an integral part of Design and the student works out a scheme completely as an experience of the effect on design of a greater complexity of components and considerations.

Fred Lasserre

THIRD YEAR ARCHITECTURAL DESIGN

Third year is but one part of the four year development in architectural design. Here it is assumed that the student is thoroughly familiar with monocoil planning and the three dimensional development of these plans to suit psychological, aesthetic, technical and economic conditions. In the final problem of Second Year Design, the student is given a start in developing buildings of greater complexity than those of one unit, and it is with the aim of continuing this development that Third Year Design begins.

The problems studied consist mostly of residential, industrial and educational buildings of a simple nature where the student may develop and consolidate his ideas on the relationship of the various units in a building, not as complete entities in themselves, but as parts of a complex and orderly whole. The length of the problems varies from one day to six weeks, the average being four weeks. Frequently they run concurrently with an equivalent level in Structural Engineering and Mechanical Services, so that the same problems may be studied to a more detailed and complete degree. All long problems have bi-weekly criticisms from the staff, while short problems are unaided as an opportunity to see what the student has absorbed up to that date. Class discussions, lasting two to three hours, follow the marking of all problems.

John C. H. Porter

FOURTH YEAR ARCHITECTURAL DESIGN

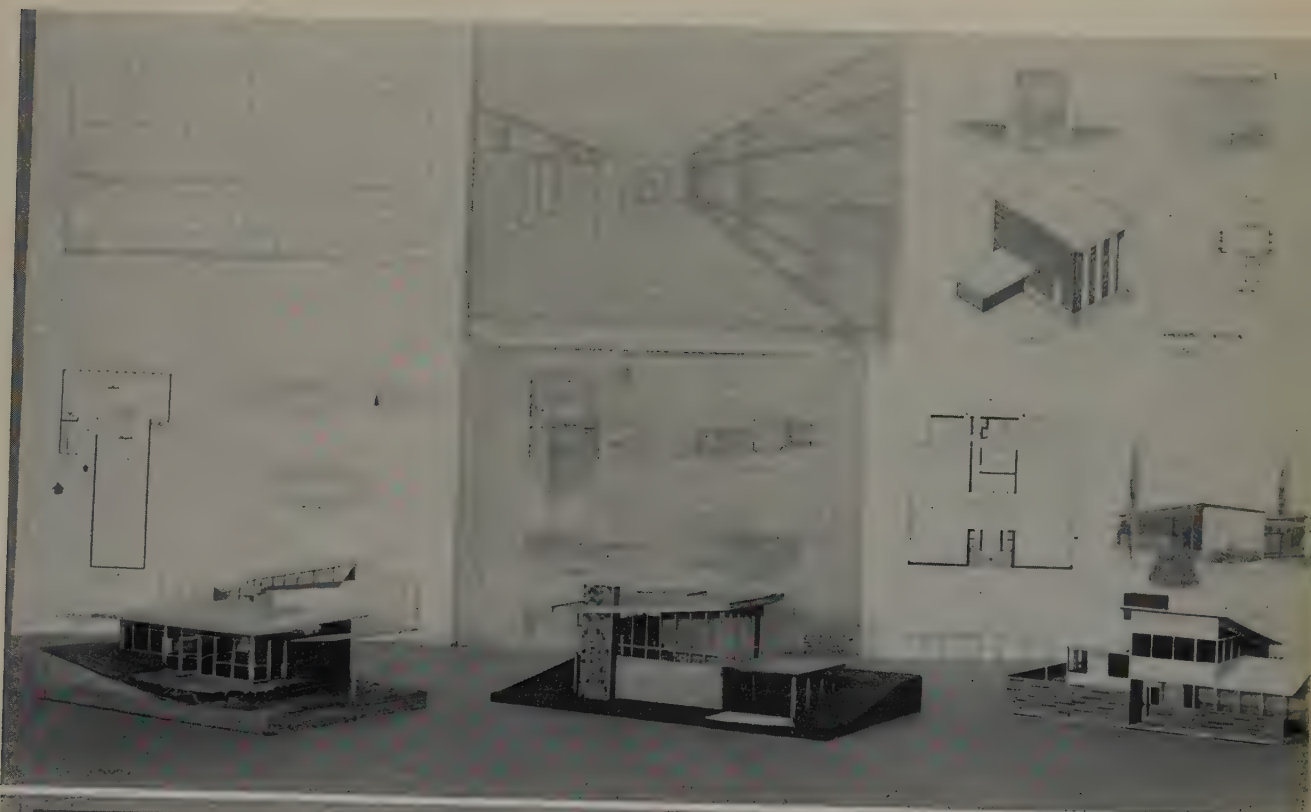
This course carries on with the students' third year investigation of more complex design problems. By this time the students have had practically all of their basic work. What basic work remained (Concrete Design and Electricity and Illumination) is taken concurrently using the design projects as examples.

The emphasis during this year is upon the co-ordination of the basic principles learned during the previous three years. These are applied to buildings which require of the student the use of his selective powers to group like units in plan, structure and appearance. The problems include Recreational, Cultural, Transportation and Medical Buildings and are considered realistically. This past year we combined a Recreational with an Educational Building, as this latter had not been included in the previous year's programme for the third year.

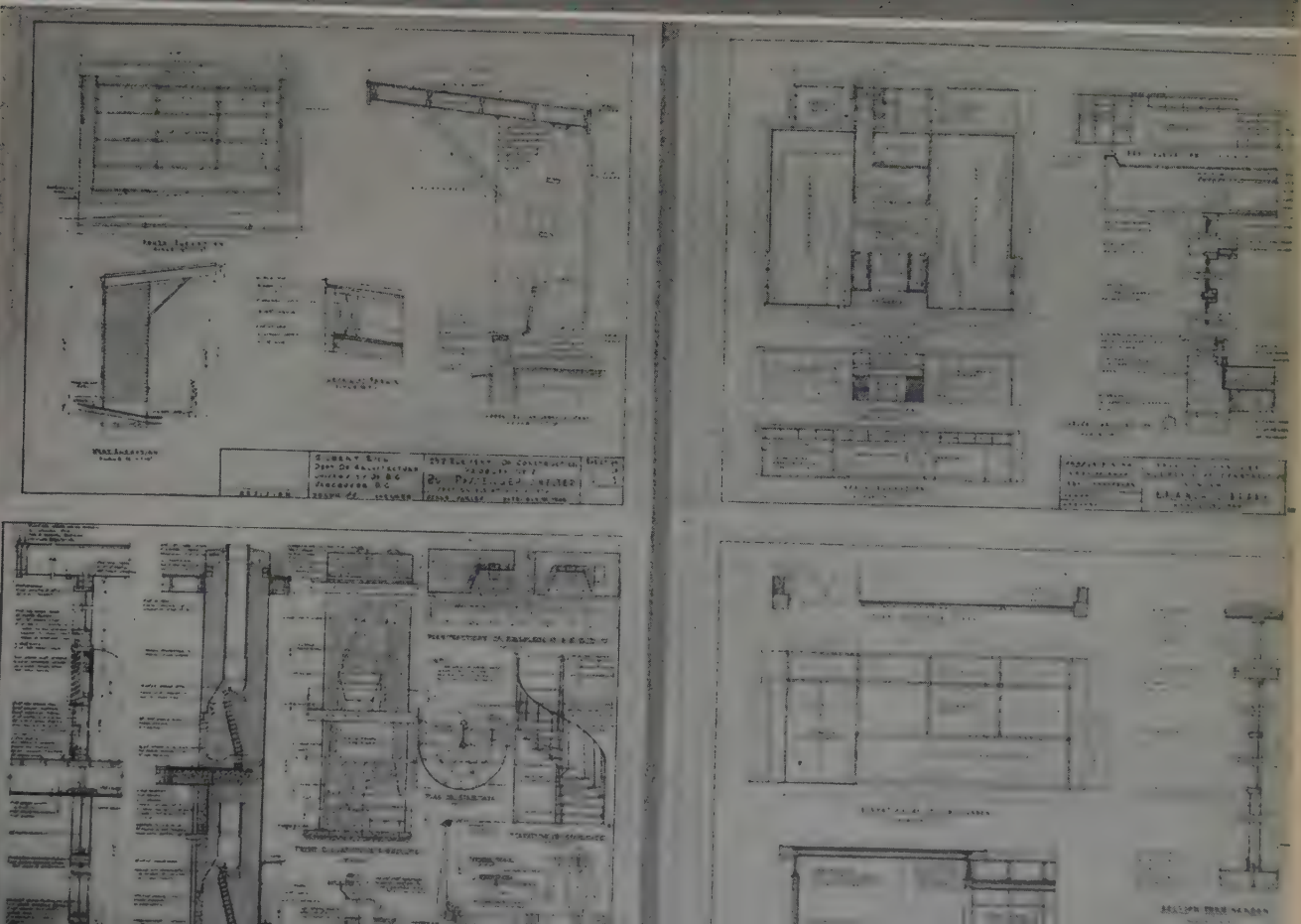
The problems are of two types. The major problems are of about seven weeks' duration and minor problems are of three weeks, or unaided ones of one week or less. Criticisms for the major problems are given when required with the assistance of practising architects who have had experience in that particular building type. The local architects have been most gracious in giving us of their time, to the great appreciation of students and staff.

Fred Lasserre

3. Second Year Design problems showing some of the stages — transparency (monumental window), space bordered by transparency and solids (connecting lobby and court), mass (transformer stations and public conveniences), simple interpenetrations of volumes (lounge and gallery), elementary planning and more complex interpenetration of volumes (studio models are shown), disciplined space relationships (branch library).
4. Building Construction includes the working out of details for design features, starting with a construction analysis of standard framing and of an existing Bus Passenger Shelter, and ending up with the working drawings for buildings developed in the design course. On the right may be seen the working drawings and details for the Branch Library which was the final design problem in second year.



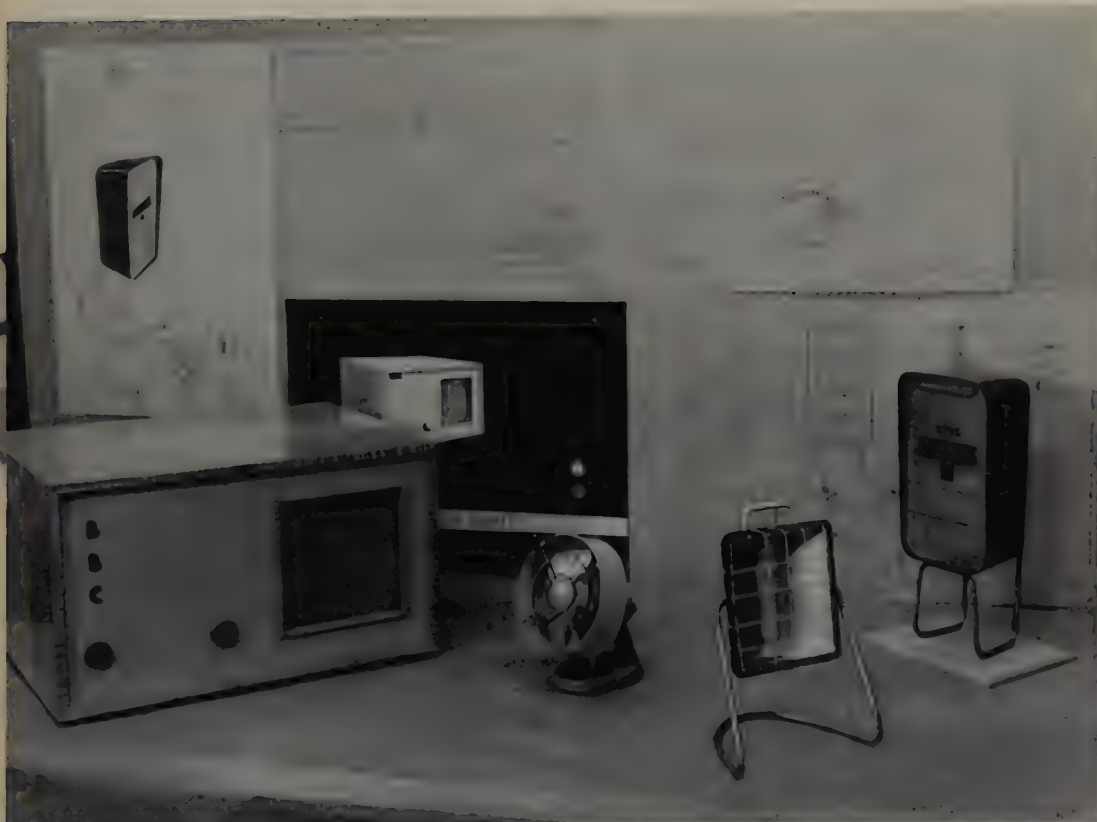
3



4

U. B. C.

5. Industrial Design included the project here illustrated. Shown are a television cabinet, fan, heater, and letter box. These were worked out in construction drawings, models and shop fabrication reports.
6. Interior Finishes, Color and Furniture exercises concluding with a problem in which the Students were asked to finish, color and furnish an actual studio apartment. Illustrated here are the models and construction drawings of chairs and tables for their solutions.



INDUSTRIAL DESIGN AND PREFABRICATION

The relatively new field of industrial design requires besides creative knowledge a certain amount of factual knowledge, which is not too extensive to be included in a course, forming a "side line" in the architectural studies and contributing to the general background of those studies. A greater understanding of manufactured building products will result.

This III Year Course is planned to serve such a purpose and its program contains a study of:

- (a) general structure of production of goods by industry on quantity basis, as opposed to individual methods.
- (b) materials used (metals, plastics, wood), their physical properties, relative costs, forms, range of application.
- (c) manufacturing processes related to different materials.

Naturally a rather encyclopedic approach has to be used, but, without going into technical details, by outlining principles and by stressing effective materials, processes, size of production, methods of distribution and economic aspects on forms in designing for industrial production, students are introduced into a new field which will help to provide them with a sound general background. A portion of the course devoted to prefabrication, the application of industrial methods to the production of houses.

The course includes theoretical content and practical work planned to familiarize students with basic manufacturing equipment and routine work of an industrial designer — i.e. solving of definite problems, preparing of promotional and working drawings, manufacturing plans and three-dimensional models.

B. Paul Wisniewski

5

INTERIOR FINISHES COLOR AND FURNITURE

This course places the student in contact with a series of design experiences which contribute to his general architectural knowledge. This contact is established through lectures, research work and exercises. The student to a certain extent carries on in this course the study of building construction and materials as applied to the interior finishes and furnishings of buildings. The exercises often spring out of the problems of design upon which the student has been working.

Working drawings, details and illustrated reports complete the work in the course, and give the student a basic knowledge of the professional work in the fields of interior and furniture design, as well as of the use of color.

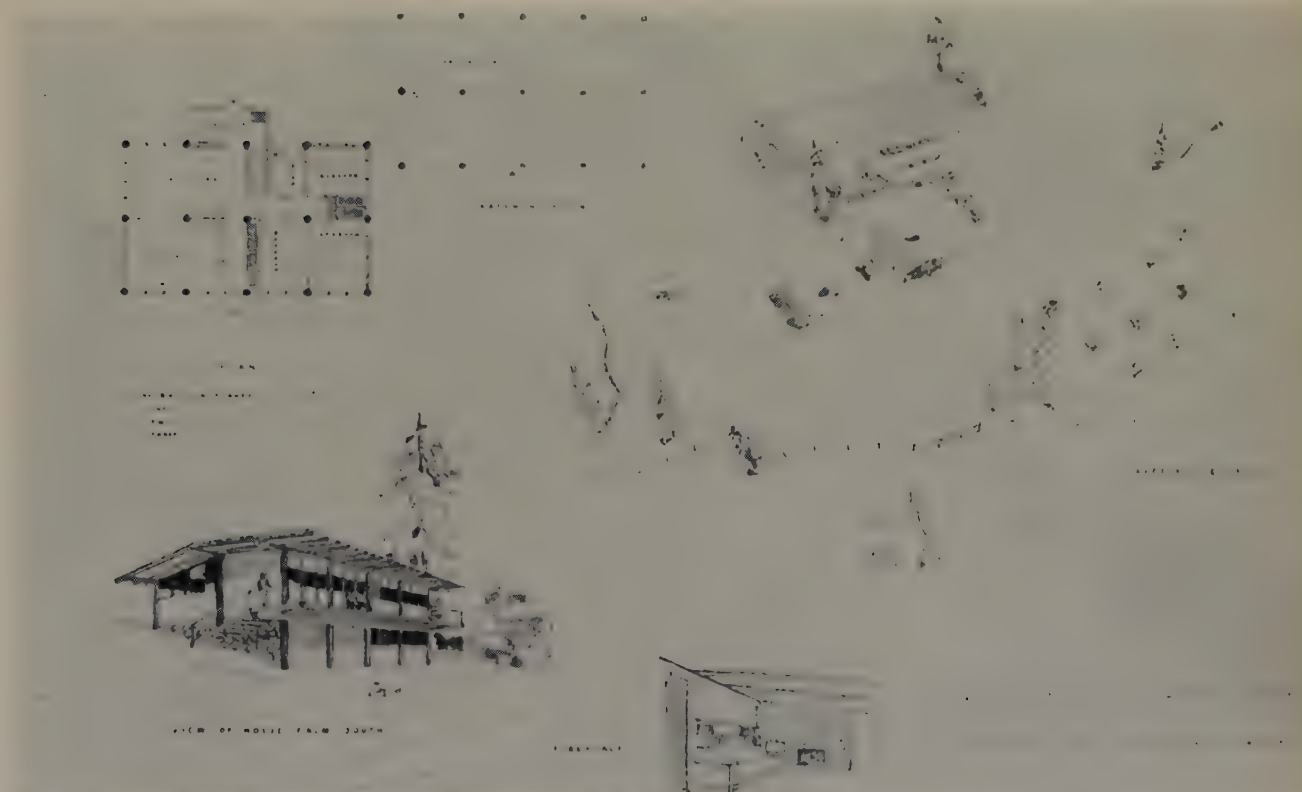
One hour lecture and three hour workshop and laboratory a week throughout the third year comprise the course. Criticisms of student projects are carried on with student participation in a manner conducive to increasing the powers of analysis and discrimination.

David Shapiro

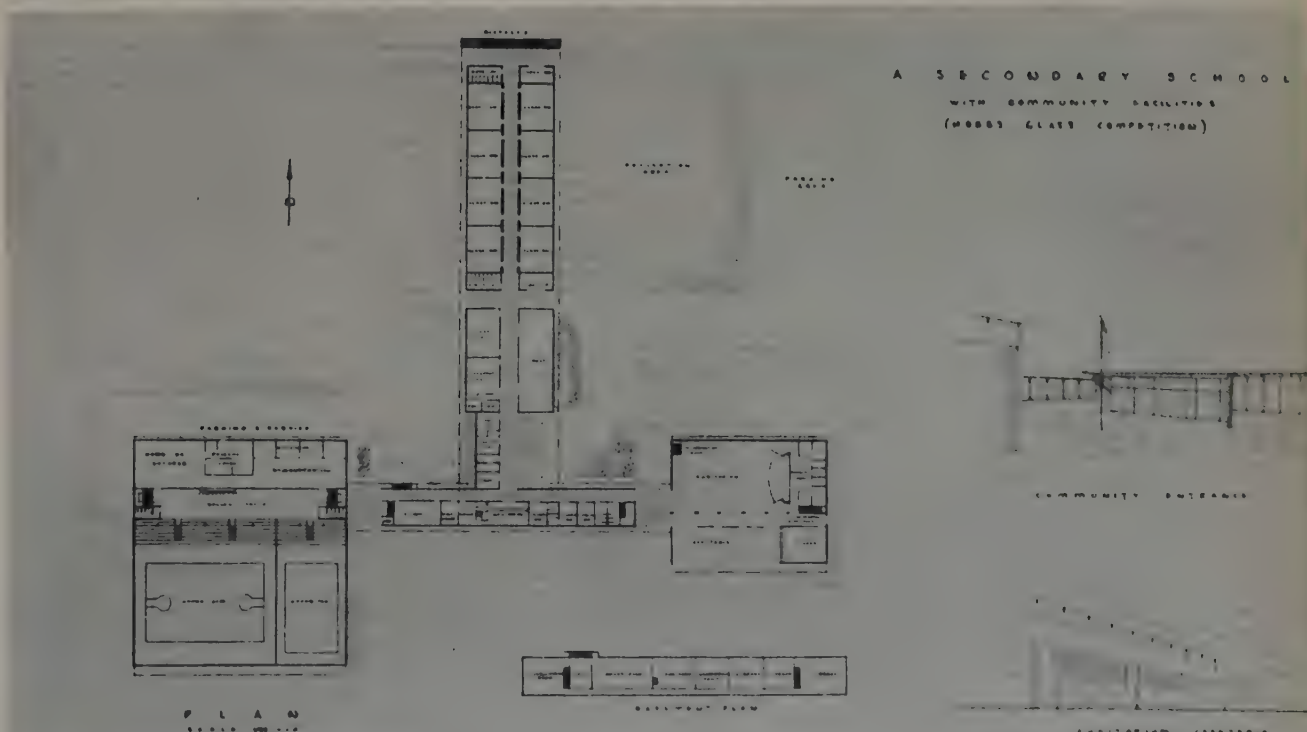


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7. Third Year Design problem in farm homes for British Columbia. The Province was divided into three principal regions. The solution shown is for the Okanagan Valley by Rex Raymer. The problem included research, farm layout and working drawings. The home was to be capable of being built in stages.
8. Fourth Year Design problem for a High School—Community Centre. This was an exercise in the grouping of like elements and in the relating of function areas. Studies included full details of a class room, the Gymnasium—Swimming Pool area, and the Playing Fields.



7



8

ÉCOLE DES BEAUX-ARTS, MONTREAL

ON ARCHITECTURAL EDUCATION

AS this, our living world, undergoes constant change; so should we change. That is one of the most successful journalistic platitudes cherished by the wise, in our days. It suffers various modulations, in spoken and written words, if not in thought: adaptation to our scientific world; acceptance of the trends of the machine age; submission to our democratic ways of life; new vision; new thought; new materials; new, new, new . . .

In fact, a chaos of thought wherein the Schools of Architecture have to thread or plough in their ways.

An anxious question is debated almost everywhere, — the Association of Collegiate Schools of Architecture endeavoured this year to find an answer; European Schools have made inquiries; the C.I.A.M. imagine, with aggressive candour, they solved it. Here, we are again wrestling with it.

"What should be the education of an architect?" "Or should it be rather a training?"

Not so very lately, — in fact, last December in London, — a Mr. Gordon Brown played with it in a paper read at a General Meeting of the Architectural Association. "There is a confusion of aims and of standards, said he, in architectural education generally. The curriculum of most schools is crowded, and yet we have a constant demand for the inclusion of new subjects and new techniques . . .

"Architectural education generally is like a great pink, cream and chromium bus which I saw in the Highlands of Scotland last autumn. It drew up at the side of a road overlooking a stream. No one got out. Two minutes passed and the bus moved on. Across the back of it were the words: "Highland Tours". Is this not like architectural education today? A tour of the Highlands in a great pink pill. Inside is the same detached, other-world atmosphere and someone shouting: "Yon's the braes of Abernethy" or "Spatial Relations", depending which bus you are using. Nobody gets out and fishes in the streams . . . It is not experience which they gain, these tourists, it is the superficial knowledge of a great number of things."

"What is it that we are trying to produce? — Is it not the creation of the new physical environment in which we are to live? . . . If we accept that view, we shall have one conception of the education of an architect. Many people tell me we are not doing this and that we are

really producing assistants. I think we are doing the former. One educates an architect and one trains assistants: two very different processes. — We suffer from the lack of an overall conception of education in the profession. This results in our having to try to do everything in five years and within the schools . . .

"It is about educational method that many of the controversies of the past decade have arisen . . .

"One of the problems that has never been tackled since we stopped drawing the Orders as the major work in the first year, and doing designs based on these elements, is *how to teach the fundamentals of design*. The history course and the courses on the other arts play their part, but how do we develop a sense of proportion, the sense of correct relationship of one part with another? How do we develop an awareness of the emotional content of certain forms? — How do we develop a capacity for criticism of pure design? — The Beaux-Arts system of the French did give a basis on which the student could build an answer to these fundamental needs. The lesson was there for the intelligent student to see and understand.

"Today we must consider the application of abstract studies. The two-dimensional and the three-dimensional abstract seems to be regarded by many people in this country as a stunt, as a piece of modernism which neither its author nor anyone else can really understand. . ."

All of Mr. Gordon Brown's paper is worth reading and thinking over (The Architect's Journal for December 16, 1948). I beg pardon for the extent of my quotation but the points he made, I would have more clumsily written.

We are questioned: What is your school doing to train competent architects? And what is the philosophy that guides or supports you? — Do not these questions revert to the general question above stated? "What should be the education of an architect" — "Or should he be trained, rather?"

The architects in practice, under the pressure of business, expect trained assistants. — The main reason for the existence of Universities and Schools is to educate — Boys come to school to find the means to earn a living — i.e. money! — Skill, training have an immediate commercial value — Education may obtain later on an advertising value. Immediately, the profits derived from education are somewhat postponed to the time when

from assistant, the young graduate may become a principal. You give a training, you can even impose it, one can learn how-to-do with ordinary application. You must receive an education, it cannot be imposed, you must learn to think for yourself. The schools offer the opportunity and the collaboration of teachers. And there, in the willingness of the student to receive an education and the ability of the collaborators to proffer food for thought lie the difficulty of the whole process.

As everybody is not sincerely decided and desirous of receiving an education, the schools shall always have to try a blend of training and education for their students. For, however good the methods, men will accept or refuse the gift, or recoil from the sincere and efficient effort needed to achieve the expected goal.

Schools have today an exceedingly difficult task. It is complicated by the clash of theories, mostly unmatured, they find scattered at every cross-road, the fads of the day.

For us, we have considered the situation and decided to direct our students accordingly; as may be feasible, with respect to their proper state of mind: training those whose main preoccupation is so set to, proposing education to those ready to receive it. Of course, not as a bargain, but as involved through the silent observation of the student's talents and attitude.

And, as can be gathered from our quotation, we rather stress fundamentals to those that receive education, and stress incidentals, matter-of-fact things, know-how to those who would rather be trained. Both may become entitled to our diploma, and get into the profession. And no harm is done, for one cannot get an education without training, as education dominates and uses training, and no one can be trained without receiving somehow some education.

This implies a method. In design we propose very varied and different problems. However, these usually aim first at the education of the student, leading him to think for himself and to form his own opinions. This result is happily attained when the proposed problems are not too trivial. The advices lead the student to proceed logically toward the solution, starting with the fundamentals, and after account for techniques and material facts. — Other problems will be purely practical but solved with the aim to express more than the terre-à-terre.

In the other courses, the method is somewhat the same, with adaptations as to kinds; exact theory developed along logical sequence, exercises as practical as every-day life can offer.

We stress the study of laws and principles rather than numerous examples of details, though when it comes to such details they should be treated in the most concrete manner.

And what results of all this? — Well, some architects who wished for a rapidly trained-assistant have found some of our boys very good right at the start: others, not

so good at the beginning but getting much better in reasonable time. Other architects who needed designers profess the same opinion.

Right at present we have produced no geniuses, but we expect to do so very soon, for we have almost a full class of them. They take their inspiration in the fads of the day, theorize, speak of proportions in $\sqrt{5}$ (!) and so on. At least they do act as if they were geniuses, rather foolishly for me, a humble man.

Here follows, in French, the working data of the school:

ÉCOLE DES BEAUX-ARTS DE MONTREAL — ARCHITECTURE

Generalités

Notre cours d'architecture a pour but immédiat de préparer à l'exercice de la profession d'architecte en égard à la Charte et aux Règlements de l'Association des Architectes de la Province de Québec, et, subsidiairement, la formation d'un personnel compétent pour le service des architectes et des travaux de bâtiment.

L'architecte, selon nous, doit être un praticien habile dans l'art de bâtir, un artiste éclairé, un homme cultivé.

L'école s'interdit résolument de subordonner son enseignement à tout dogmatisme esthétique, quel qu'il soit. Elle se refuse à enseigner "une architecture." Elle enseigne comment, le problème architectural étant posé, on peut atteindre à la réalisation, à l'expression plastique et spirituelle, après examen des conditions posées par le milieu physique et social, par les exigences des techniques et celles du bon goût:

— L'oeuvre doit répondre honnêtement aux exigences fonctionnelles d'un édifice ou d'un ensemble architectural.

— Le choix des matériaux doit être conforme à leur usage éventuel et aux principes d'une saine économie, qui évite la parcimonie comme la vaine prodigalité.

— Les proportions doivent être justes et agréables, mais pas sur le papier seulement; l'édifice, en effet, doit être considéré sous l'aspect extérieur d'un volume dans l'espace; sous l'aspect intérieur de volumes d'espace limités par des surfaces.

— Les matériaux de surfaces — un volume est toujours limité par des surfaces — devront être agréables de couleur et de texture, le demeurer et s'enrichir de la patine du temps.

L'Enseignement

1o *Cours de composition architecturale*: conception, étude et organisation totale de l'oeuvre, tant au point de vue fonctionnel que structural et esthétique, compte tenu des multiples connaissances scientifiques et techniques nécessaires. Stimulus de l'inventivité et développement du sens artistique, de la petite habitation à l'étude des grands ensembles. Notions d'urbanisme.

2o *Cours de culture et d'appoint*: Théorie et éléments de l'architecture. — Histoire générale de l'art. — Histoire

de l'architecture, compréhension des procédés techniques et des modalités de construction aux différentes époques, en regard des problèmes posés par les diverses civilisations, et des rapports de l'architecture avec les autres arts et la civilisation elle-même. — Exercices de dessin à vue — croquis — lavis — rendu architectural — aquarelle — modelage — (enfin les modes divers de l'expression figurée ou dessinée pour développer un sens visuel exact et un sens artistique assuré). — Dessin linéaire et géométrique. — Théorie de la lumière et des ombres. — Théorie des couleurs.

3o Cours de sciences, de techniques et de construction:

- (a) Bases mathématiques ("Préparatoire");
- (b) Compléments de mathématiques: géométrie analytique, calcul infinitésimal, géométrie descriptive, géométrie cotée; applications: théorie des ombres, stéréotomie pierre, bois, acier et métaux, béton armé; perspective;
- (c) Dessin des plans d'architecture;
- (d) Eléments de géologie; topographie et arpentage, levée de plan;
- (e) Mécanique rationnelle; statique graphique; résistance des matériaux, charpentes en bois, charpentes métalliques; béton armé; serrurerie et métaux;
- (f) Notions sur les essais des matériaux;
- (g) Chauffage, ventilation, réfrigération, conditionnement de l'air;
- (h) Electricité du bâtiment; gaz; éclairage;
- (i) Acoustique du bâtiment;
- (j) Plomberie et installations sanitaires;
- (k) Equipement mécanique du bâtiment;
- (l) Verre et matériaux modernes;
- (m) Fondations;
- (n) Construction générale; théorie de la construction;
- (o) Métré et estimé du bâtiment et des travaux;
- (p) Cahiers des charges, devis descriptifs et estimatifs;
- (q) Exercice de la profession, devoirs de l'architecte, législation et jurisprudence du bâtiment;
- (r) Comptabilité de l'architecte, classement des documents.

Tous les cours comportent des exposés théoriques et de nombreuses applications pratiques. Il s'agit, d'une part, d'approfondir sans cesse la culture de l'élève; de lui faire prendre conscience, d'autre part, au cours de ses réalisations techniques, des conditions qui prévalent à l'extérieur.

Regime

L'enseignement est donné: 1o dans des ateliers; 2o à l'aide de cours oraux; 3o par l'organisation de séminaires; 4o par la préparation de thèses spéciales qu'élaborent les élèves sous la direction des professeurs. Les différentes matières inscrites au programme sont enseignées objectivement, avec le souci constant de préparer l'élève à l'exercice complet de la profession d'architecte.

Les études sont réparties en deux sections:

- 1o La Section d'études préparatoires, dont les cours sont professés en une année scolaire;
- 2o La Section des études normales: cours du diplôme professé en cinq années.

L'école, demande que chacun de ses élèves utilise les périodes de relâche d'été afin d'acquérir l'expérience pratique des bureaux, des chantiers et même des métiers du bâtiment. Les certificats justifiant cette dernière sorte de cléricature seront versés au dossier de l'élève devant le jury d'octroi du diplôme de l'école.

Admission à la Section des Etudes Normales

Aucun élève ne peut être admis au cours normal d'architecture s'il ne justifie: 1o de ses titres à l'immatriculation senior, en ce qui concerne sa culture générale littéraire et scientifique (d'accord avec le programme des examens d'admission en première année); 2o de ses connaissances du dessin et du modelage, et surtout des éléments d'architecture et de composition architecturale.

Section d'Etudes Préparatoires

La section d'études préparatoires est destinée à permettre aux candidats de parer à leurs déficiences.

Son but principal est donc de fournir aux aspirants au cours normal d'architecture la possibilité:

- 1o — de compléter leurs études de mathématiques (programme de l'immatriculation senior avec orientation vers les techniques du bâtiment), de physique et de chimie élémentaires, d'histoire générale et d'histoire générale de l'art;
- 2o — d'apprendre le dessin d'ornement et de figure et le modelage d'ornement;
- 3o — d'apprendre le dessin géométrique et technique;
- 4o — d'apprendre les éléments d'architecture (dessin architectural au trait comportant étude, mise à l'échelle et lavis d'éléments classiques, de l'antiquité à la fin du dix-huitième siècle);
- 5o — d'apprendre les premiers principes de la composition par la création d'éléments d'architecture.

Emile Venne

UNE PETITE EGLISE GASPESIEENNE

ette église, destinée à recevoir 500 fidèles, serait construite dans
a village, elle comprendrait:

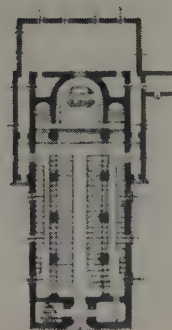
- Une nef, avec ou sans bas-côtés;
- Un chœur assez vaste, avec stalles disposées de chaque côté du maître-autel;
- Deux petits autels bien en vue;
- Une grande sacristie;
- Un petit baptistère, à proximité de l'entrée principale;
- Une tribune d'orgues, accessible par un escalier placé près du vestibule d'entrée;
- Un clocher.

a sacristie serait reliée au presbytère par un chemin couvert, ou
ortique fermé et chauffé. Elle aura aussi une entrée spéciale de
extérieur. Autant que possible on devra pouvoir accéder à la
sacristie de l'intérieur de l'église sans avoir à traverser le chœur.

certaines jours, particulièrement l'hiver, c'est dans la sacristie que
célèbrent les offices, afin de n'avoir pas à chauffer toute l'église.

a plus grande dimension de la construction n'excèdera pas 180 pieds.

Guy Parent, 2nd Year



UNE
PETITE EGLISE
GASPESIEENNE



A PORTE D'ENTRÉE EN FER FORGÉ,
D'UN PALAIS DE L'ART MODERNE
th YEAR
PIERRE-PAUL ROUX

ÉCOLE DES

UNE FAUVERIE

Cet établissement serait érigé dans un parc zoologique comme dépendance d'un Muséum, centre d'études zootechniques. Il devra, par ses dispositions, offrir un instrument commode d'observation scientifique en même temps qu'il servira à l'instruction générale du public.

Le terrain dont on dispose, tant pour l'édifice que pour ses approches immédiates, a une superficie de 60,000 pieds carrés. Environ la moitié du terrain pourra être construite.

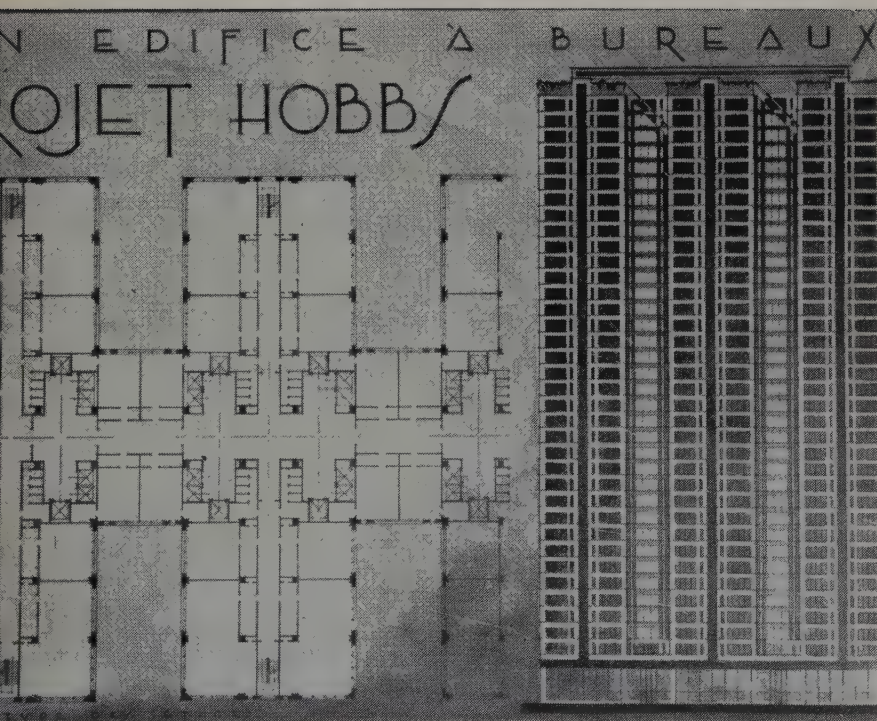
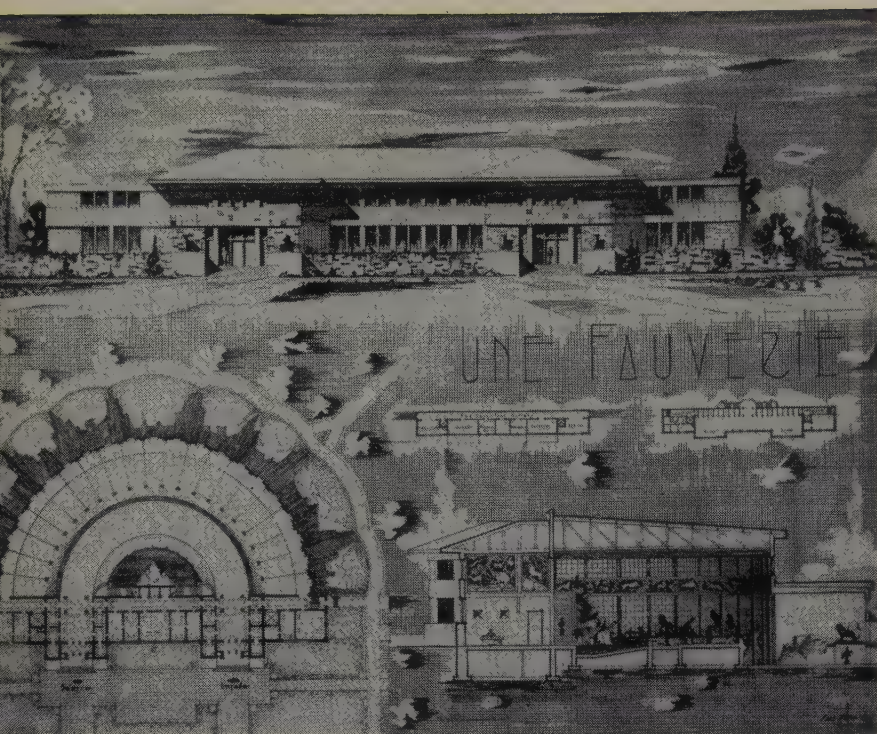
L'édifice comportera un sous-sol, un rez-de-chaussée et un premier étage partiel.

Une circulation en sens unique, pour le public, de l'entrée vers la sortie, franchement indépendantes l'une de l'autre.

Un grand hall d'exposition des fauves, traité avec chic, agrémenté de bancs, de vases décoratifs, de bassins avec jets d'eau si l'on veut, de jardinets, etc. Ce hall sera éclairé le jour, par un large plafond vitré, et la nuit par le même plafond rendu lumineux par les dispositifs nécessaires.

La structure sera obligatoirement en acier et devra comporter des fermes supportant une toiture et non une terrasse, ce projet devant servir de base à l'application du cours de construction.

Paul-Marie Côte, 3rd Year



UN EDIFICE À BUREAUX

Le programme imposait un terrain mitoyen sur un seul côté, une orientation vers une place publique, des services de magasin, un restaurant, un cinéma, de grandes salles à rez-de-chaussée. Les étages, tous destinés à la location, devaient permettre l'adaptation à des utilisations d'espace variable grand ou petit.

On devait chercher un maximum de rendement, par un maximum d'éclairage et autant que possible réduire le nombre des points d'appuis.

— Ceci est un détail de l'ensemble, donnant l'organisation possible d'un étage type. Les variantes ont été proposées sur d'autres dessins.

André l'Hérault, 4th Year

BEAUX-ARTS

UNE EXPOSITION PERMANENTE DE L'INDUSTRIE Projet Final

On conçoit ici, l'industrie d'une façon très large, ainsi cela devra inclure les industries d'art industriel, du théâtre, de la mode, etc.

Ces expositions seraient organisées soit par des groupes d'industriels, soit par des groupements corporatifs, soit même par des individus. Les locaux devront être appropriés à ces différentes manifestations.

Les principales sections seront: 1o l'industrie lourde; 2o l'industrie du bâtiment et de l'habitation; 3o les industries du meuble et des objets mobiliers; 4o les industries d'art, avec provision pour les manifestations décoratives et quelques salles pour la sculpture et la peinture, l'illustration, le livre, etc.; 5o l'industrie du cinéma et du théâtre; 6o l'industrie des tissus, etc. de la mode.

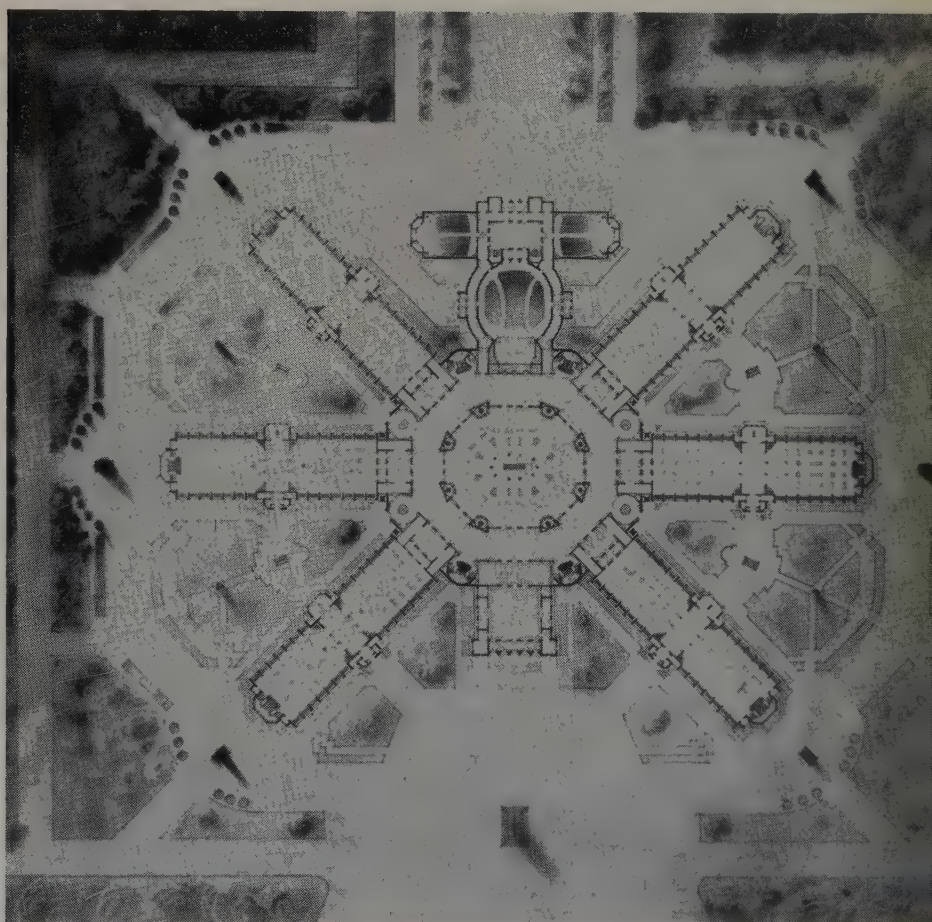
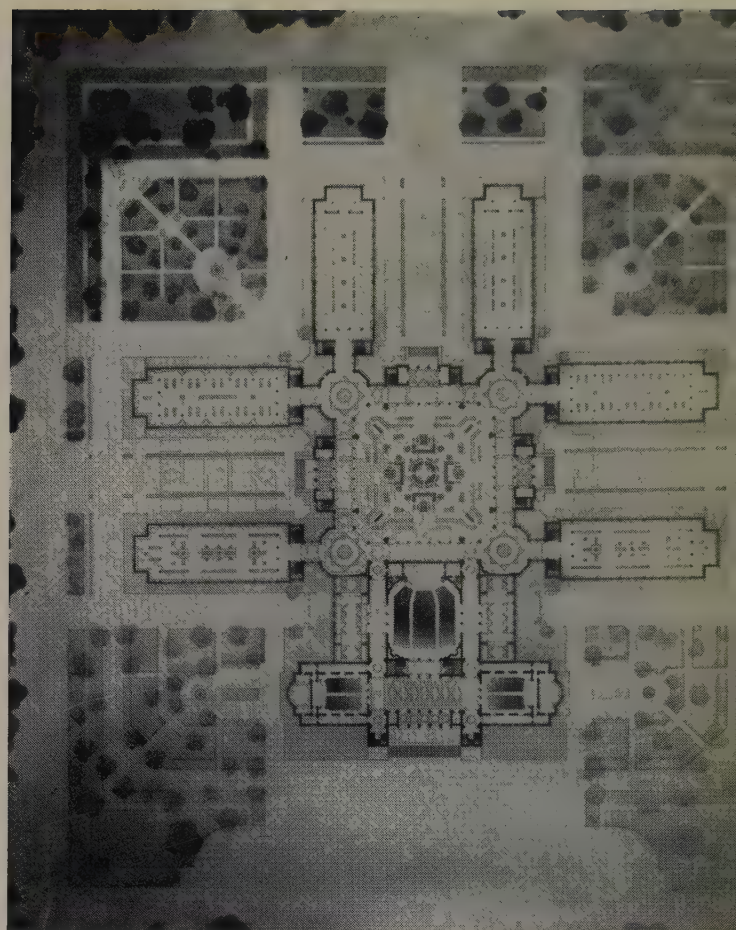
Outre les constructions précédentes, on disposera commodément dans le plan: 1o. un restaurant qui servirait, avec ses dépendances d'exposition modèle de l'industrie hôtelière, à des manifestations gastronomiques et à la dégustation des produits divers ou traditionnels de la province; 2o. Un groupe de salles de conférences et de radio-diffusion pour renseigner le public sur les développements et les progrès de l'industrie; 3o. les services de l'Administration de cet important ensemble: bureaux de renseignements, bureaux de propagande, etc., et une bibliothèque générale avec services appropriés.

Le terrain prévu pour ces constructions serait sensiblement de niveau, bordé par de larges avenues, d'un jardin sur l'un de ses côtés (le grand ou le petit ou choix). Il aurait 1000 x 2000 pieds. Entre les bâtiments énumérés ci-haut, outre les circulations nécessaires, on disposera des jardins, des terrasses, des lieux de repos propres à encadrer les bâtiments et à inviter le public.

On aménagera une entrée principale pour le public et des entrées secondaires de service et de manutention des objets d'exposition; et des parcs à voitures, des places de stationnement d'autobus, de tramway rendant aisés l'arrivée et le départ du public, en dehors du terrain consacré à l'exposition.

Enfin partout on établira les vestibules, doubles-vestibules, escaliers, ascenseurs, monte-charges, vestiaires, toilettes et lavabos nécessaires. Aux endroits propices quelques escaliers d'honneur sont à considérer.

5th Year
Pierre-Paul Roux
Ivan Belanger



UNIVERSITY OF MANITOBA—SCHOOL OF ARCHITECTURE

THE TRAINING OF AN ARCHITECT AT MANITOBA

Architectural education has become increasingly complex as a result of the development of many new technics. A curriculum in architecture should provide a series of humanistic, artistic and technical studies closely integrated with the basic course, design. The understanding of human activities and the architect's desire to serve their needs cannot be taught by formal education. All we can hope to do is to present ways and means and to give a sense of direction so that each student may ultimately find his own integration. Our aim is not to produce a special type of architect in quantity, but rather to enable each student to become an architect of individual quality.



FUNDAMENTALS

In each aspect of the student's approach to architecture, certain fundamentals of expression and logic must be mastered.

Pure Design introduces the student to the units of expression in visual design — line, area, value, colour, texture, pattern and volume. Weekly exercises afford opportunities to experiment with the control of these units through harmony, balance and rhythm, as well as to become acquainted with graphic presentation techniques.

Fundamentals of Design and Materials studies the use of the basic elements of design in all the creative arts and emphasizes both the aesthetic and physical qualities of materials.

Architectural Drawing acquaints the student with the fundamentals of drafting as a means of graphic expression. Shades and shadows, perspective, simple line and rendered drawings comprise the practical work.

English Literature, historical and contemporary, provides a cultural background which is supplemented by exercises in basic English expression and report writing.

Mathematics, through a series of Analytical Geometry, Trigonometry, Calculus and Mensuration, provides a broad foundation for the specialized engineering and structural courses to follow.

Physics, including Heat, Light and Sound, together with *Mechanics*, provides the necessary physical background for building technics and mechanics.

Colour is emphasized as one of the most important elements of design. Preliminary analyses of the theories of colour mixture and harmony are followed by exercises which demonstrate the interrelationship between colour and form, texture, pattern and light.

Graphic Presentation forms an important auxiliary to each year of the course. Although the emphasis is on technique of expression in various media of both two and three dimensional forms, there is constant integration with design.

MANITOBA

HUMANITIES

History traces the development of architectural, sculptural and pictorial design in relation to the growth of western culture and emphasizes the fundamental unity of artistic expression in different times and places.

Sociology deals first with social life, culture and personality, with human ecology, social interest and social change. Then, focusing on housing and community planning, it analyzes the rise and decline of cities, population and selective migrations, urban group life and personality and the organization of city life.

Urban Development analyzes the community, both historic and contemporary, as the expression of the requirements of the time. The development of the master plan is studied from the administration and technical points of view and as an environment for community living.

Economics introduces the student to the fundamental principles underlying consumption, production, exchange and distribution and, by means of a social approach, presents some of their applications.

Professional Relations deals not only with the business of architecture and the various human relationships between the architect and the client, the engineer, the contractor, etc., but also emphasizes the importance of his role as a member of society.

TECHNICS

Building Construction commences with the theory of construction, studies the various structural methods and the materials used, and finally analyzes the technical aspect of building materials and their application. At intervals throughout the course, specific design problems are developed into working drawings and construction details, thus integrating the structure with the design.

Strength of Materials, Structural Design, Foundations and Reinforced Concrete, taught by the Department of Civil Engineering, supply the very essential technical knowledge which is the means of realizing design and which, at the same time, acts as its stabilizing agent.

Building Mechanics provides specialized study of the mechanical equipment of buildings for sanitation, heat, and ventilation. Further courses in illumination and acoustics round out the technology of building.

DESIGN

Architectural Design is the creating of space for human use and enjoyment by the planning of structures in which building materials, technics and mechanics have been integrated into one harmonious whole which is functional and aesthetically satisfying. As the central continuing course of the curriculum, architectural design synthesizes the necessary humanistic, artistic and technical studies. In his attempt to solve problems of man's environment, the student's creative power is recognized, stimulated and encouraged.

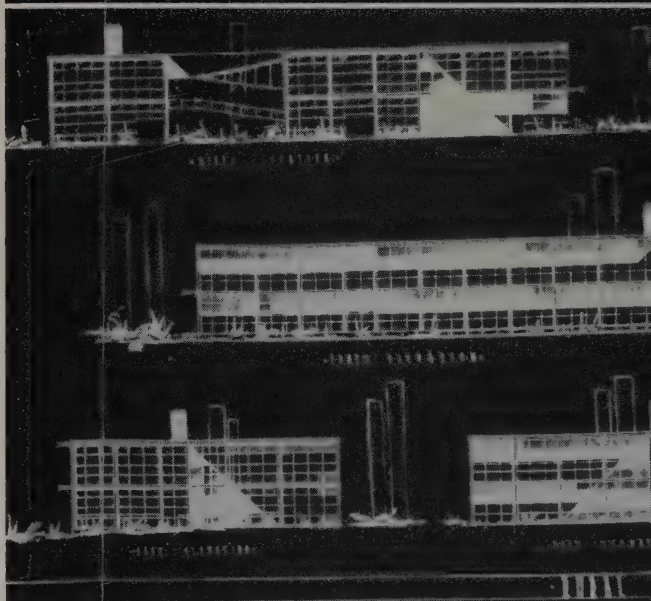
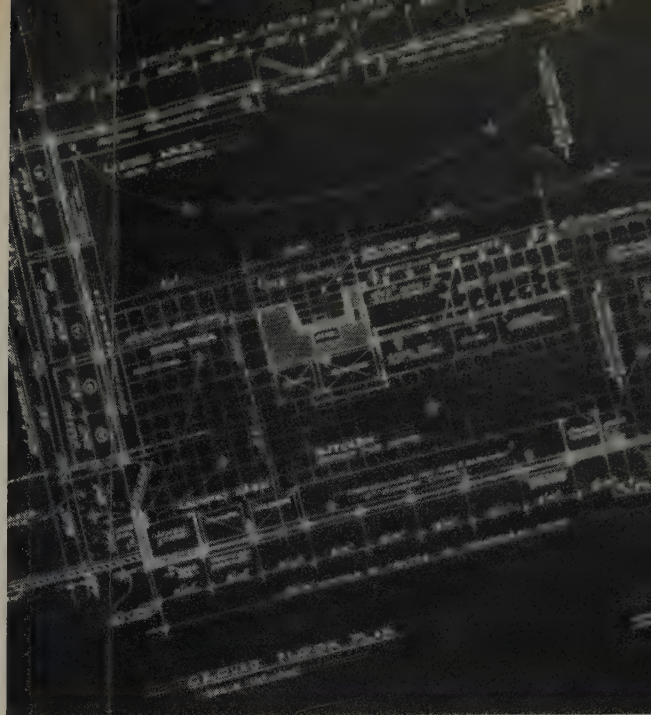
Theory of Architectural Design, through a series of lectures and class discussions, develops the ability of the student to analyze and think rationally in order that he may solve problems successfully. It thus becomes the bridge between the fundamentals, humanities and technics on the one hand and his creation of architectural form on the other.

Interior Design stresses the fact that architecture is enclosed space designed for human use. It must be closely coordinated with and therefore express the form, materials and construction of the building, as well as create the most appropriate environment for human activities. Two-dimensional area planning and three-dimensional space planning determine the disposition of forms, while textures, patterns, color and light are moulded together into backgrounds that are aesthetically satisfying and emotionally conducive to human activity.

Industrial Design affords the student further opportunity to understand the materials he is using. Following a series of space studies and non-objective experiments, both materials and production processes are analyzed in a series of exercises in commodity design.

Creative power in architecture is the serving of human function with physical structure in a material form which is adequately expressive.

— Henry-Russell Hitchcock



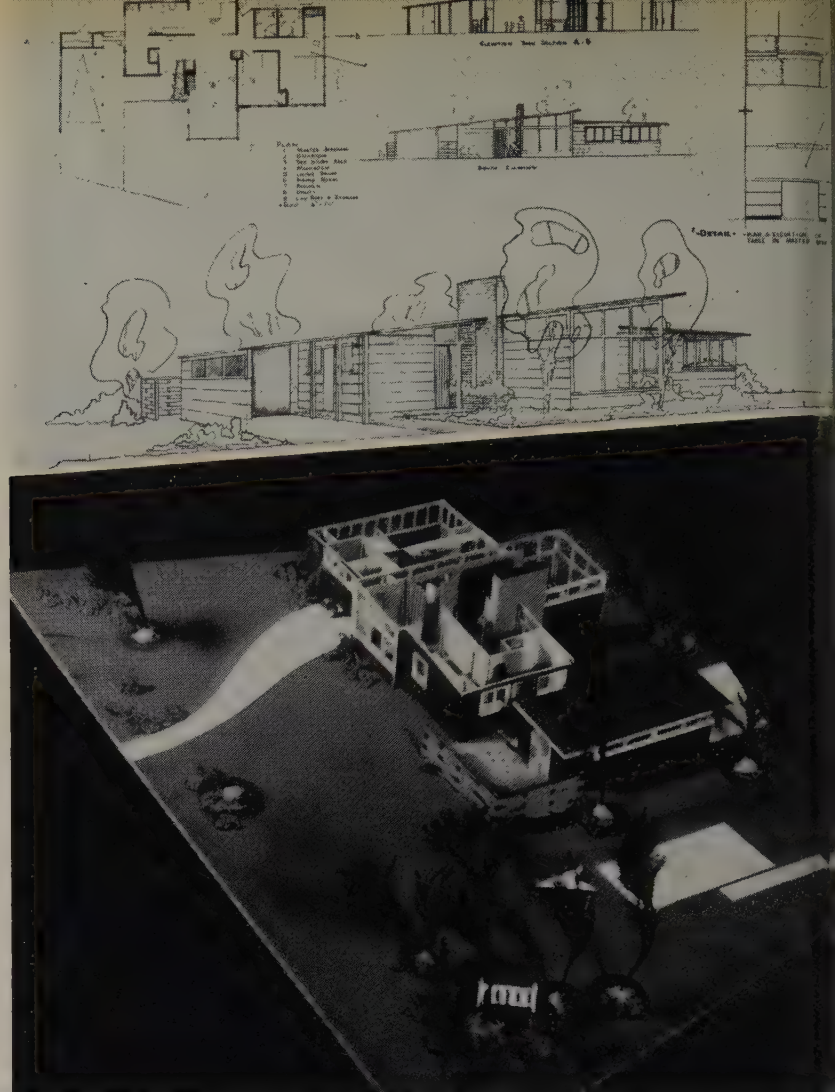
ANITOBA

DESIGN I

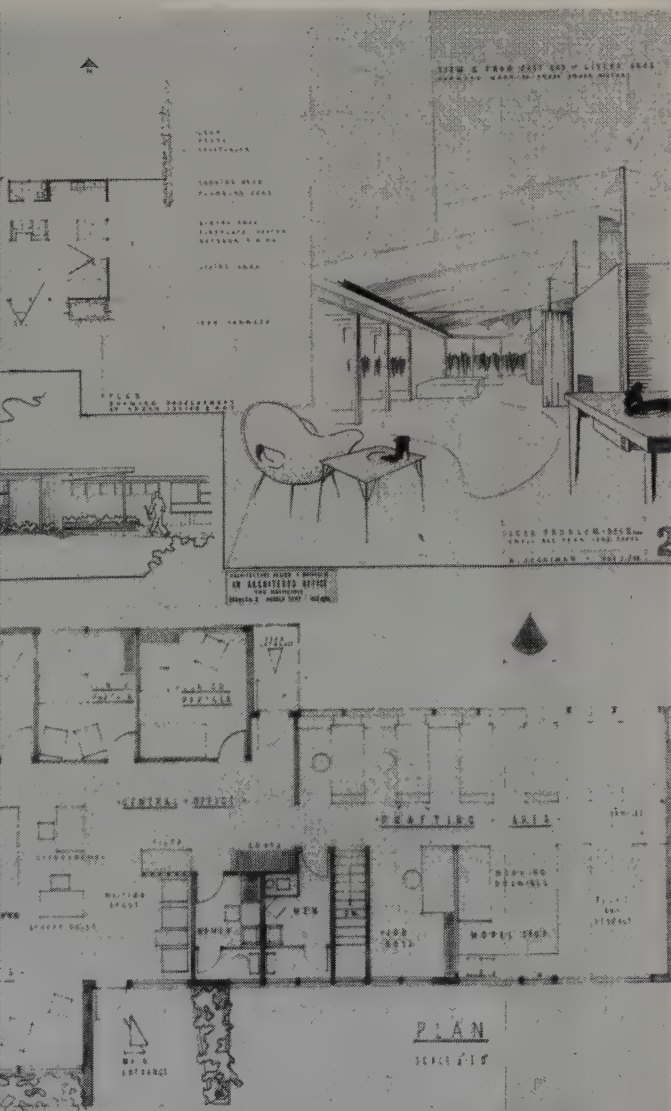
student is introduced to the solution of familiar prob-
by a series of three-dimensional model exercises
onstrating scale, proportion, volume and space limita-
His introduction to the problem of space-use comes
the development of a given area, such as the living
e in a summer home. Following a series of stages
ng which planning, site relationships, volume and
stration are studied, a three-dimensional model
naises scale as dictated by structure and materials

r a series of problems based upon specialized require-
s, the student returns to the house as the space-
psure most familiar in its requirements. This year, a site
chosen in a park development with eleven lots around
mmon service drive. To develop the student's ability
ork with others, each was required to consider his
hbor's in developing his own house. No danger of regis-
tation existed because each lot differed from the
rs in some aspect,—shape, orientation, etc. Thus the
ent was free to solve his problem logically, without
ng to be different"—a common tendency in the early
s of design.

John W. Graham



T. ROBERTSON



R. JESSIMAN

H. TETT

DESIGN II

The second year of design is concerned with the transition from the basic considerations of the first year to those of a more complex nature to be met in the third year. The study of the housing of man serves this purpose best. Of the many facets of architecture, the enclosure of space for man's family activities is the part most familiar to the student, although his early analysis of it is by no means mature. The aim of the course is to propose problems which will instigate fresh and uninhibited thinking.

Following the study of individual dwellings, the problem of group dwellings is approached. No given row housing or multiple living unit is solved in its entirety; merely one cell and its variants are considered. This serves as a medium for more advanced studies of community living.

As a relief to housing, other problems familiar to the student are given. This year's class developed an architect's office. It was a unit designed to give study to a limited form and space, and to introduce elements of more complicated circulation. More time was spent discussing the fenestration, color and textures than had been the case in earlier designs. It became the focal point bringing together the varied elements which influence, limit or control architectural design and which are gleaned from the other courses of study in the curriculum. The consideration of structure was companion to each design problem of the year, and the architect's office was developed to the full working drawing stage.

A. James Donahue

DESIGN IV

design studies and objectives of the final year deal in an advanced degree with the physical problems of man's environment.

This year it was proposed that the present and future physical needs of The University of Manitoba be the subject of development plans of its present campus. The larger aspects of university life, including general education, research, recreation and housing, roads and services, were to be projected for a future growth period of thirty to fifty years. Preliminary research took the form of assembly of data, evaluation and analyses of the problems involved. The student groups of seven developed site development plans as collaborative projects, following which each member designed one of the building units in relation to his group's plan. The final site proposals ranged in scope from exploratory space organizations (like the one illustrated at the bottom of page 10) to those conserving the best of existing facilities within the new patterns for the university environment.

The second term is devoted to the development and presentation of the thesis. Preliminary research and investigation are carried on during the previous summer, the results of which are submitted in report form during the fall term. The development of the thesis follows as closely as feasible the pattern of actual office experience: the submission of several sketch plans developed for critical discussion with members of the staff; the presentation of the design in plan, elevation and certain perspective sketches; a model; a series of working drawings which, though not complete, will show typical plans, elevations, sections, the structural system and the development of as many details as possible. The thesis is presented in person by the graduate to a jury composed of practicing architects and members of the university staffs in civil engineering and architecture. It is judged mainly on the student's demonstration of his ability to carry on independently a building design from its inception and analysis to its submission for tender.

Herschel A. Elarth

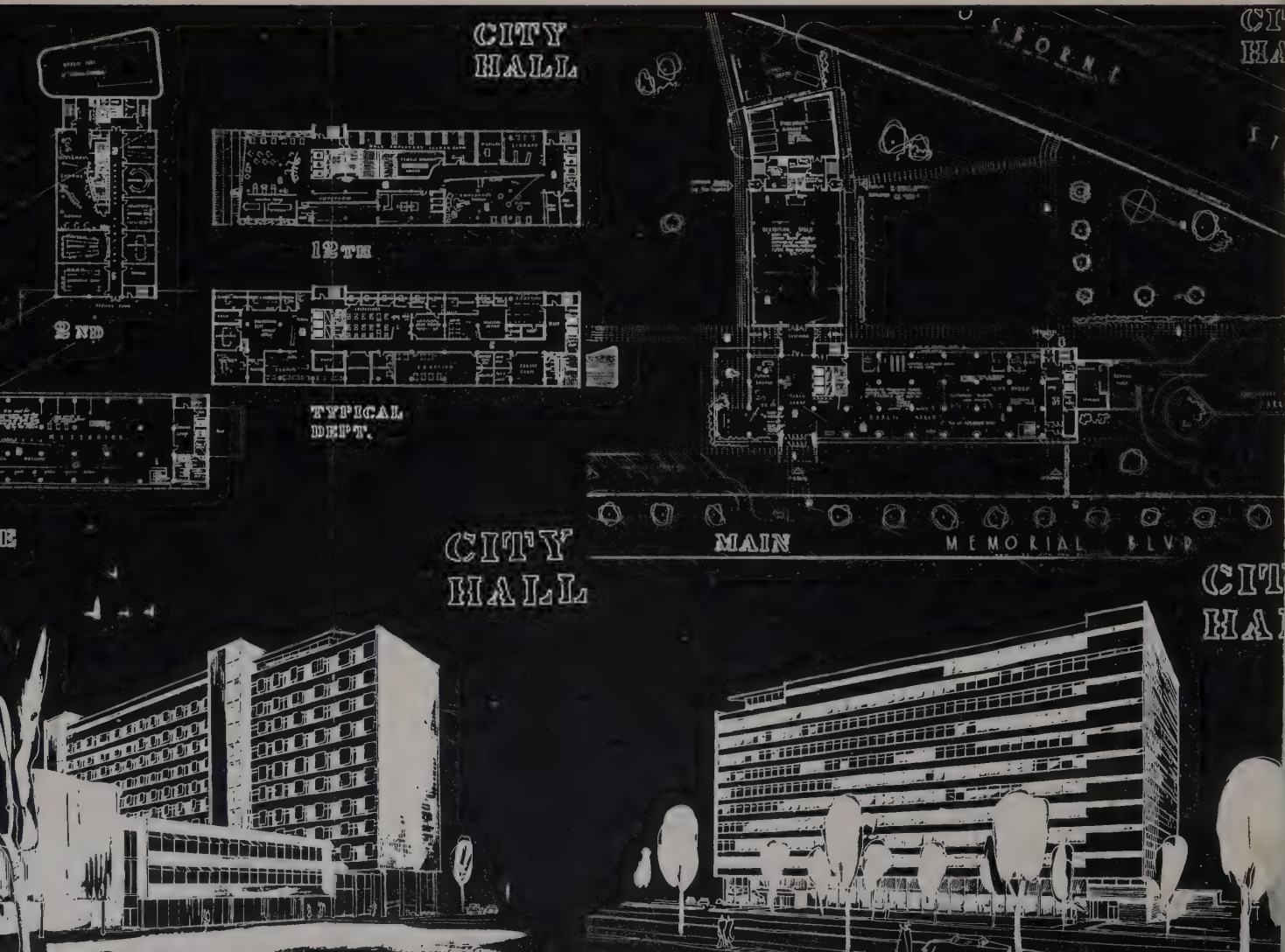
INDUSTRIAL DESIGN

The great contribution made by architects, as well as the need for the student to understand more fully the materials he is to use, has brought about the introduction of product design as part of the survey and study of design in schools of architecture. The approach to the specific field is made by means of space studies and non-objective experiments. By this method it is hoped to give the student a new concept of thinking in terms of any or all the elements of design. These brief studies in space modulation afford opportunities to experiment with commercial display and design work.

With limited facilities available, industrial design problems cannot be accomplished in the true sense of complete design for production. The essential elements are the method of approach and the thought given to the assigned exercises. At present, one manufacturing firm in Winnipeg is cooperating with the School by establishing a competition for products they feel may be used for production. There is every indication that interest by local producers will grow in the future when time permits the program to grow.

A. James Donahue

ARNOTT



the problem is

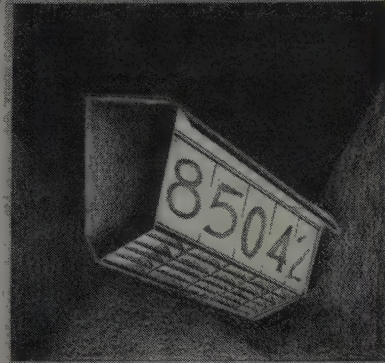
to design a combination porch light and illuminated house number attaining to the average homeowner.

the solution is

A simple unit fabricated from sheet aluminum and consisting of five elements, comprising a lamp assembly, a lens, a chassis, a sign plate, and a base.

Features are: simple installation - bulb protected from weather - easy bulb replacement.

and details are



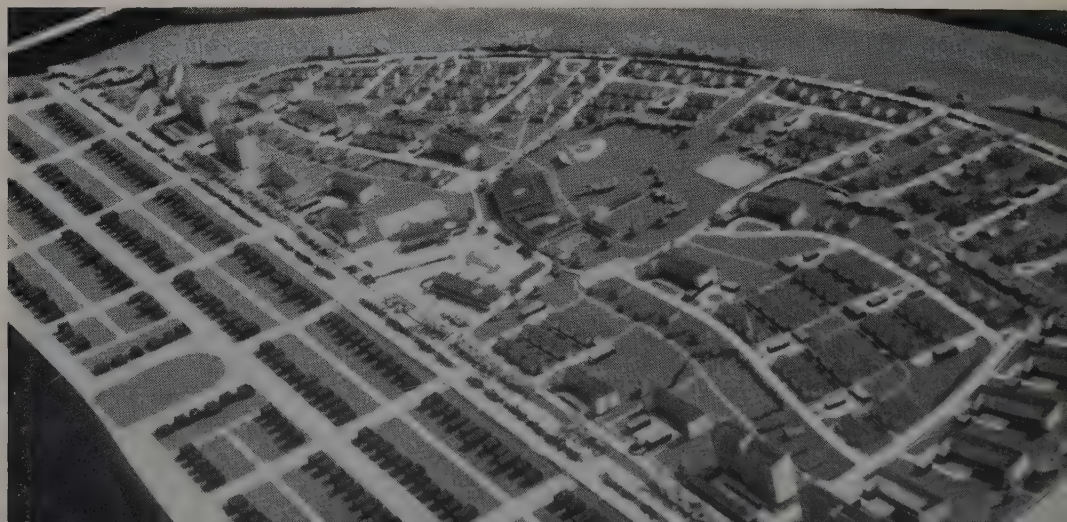
AN ILLUMINATED HOUSE NUMBER AND LIGHT

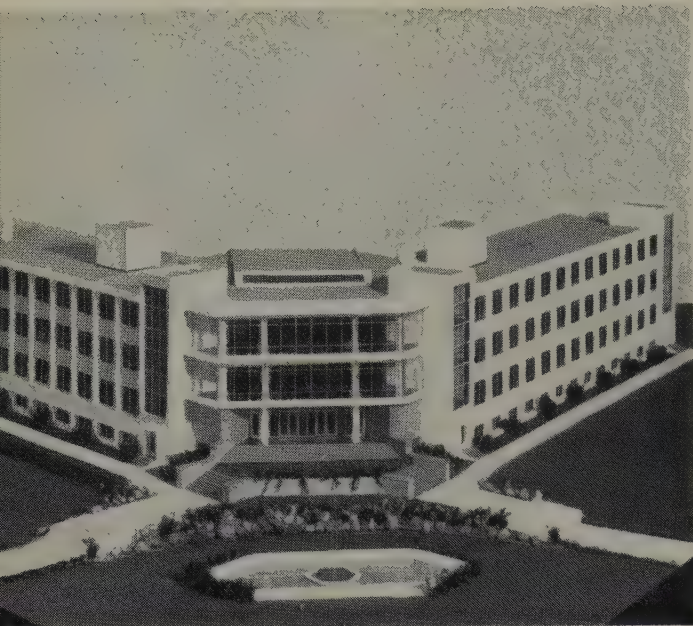
PLANNING

The undergraduate courses in community planning are closely coordinated with the last year and a half of the course in architectural design. Design III, as described under that heading, introduces the first major contact the student has with the mutual relations which exist between buildings and their planned environments. The planning of self-contained communities from the physical and social surveys to the final development plans is demonstrated, in part at least, by collaborative problems such as the one illustrated below.

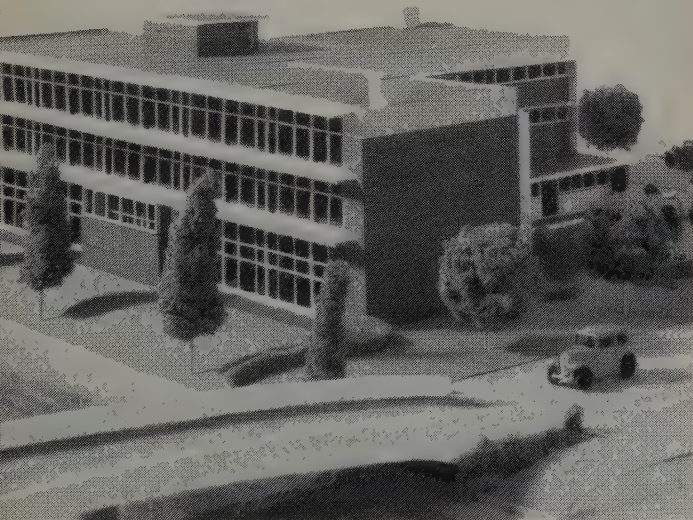
The graduate course which commences next fall, will give more detailed and specific direction to the problems of community planning as they relate to the physical plan, the social structure, the enabling legislation and the many phases of municipal engineering.

V. J. Kostka

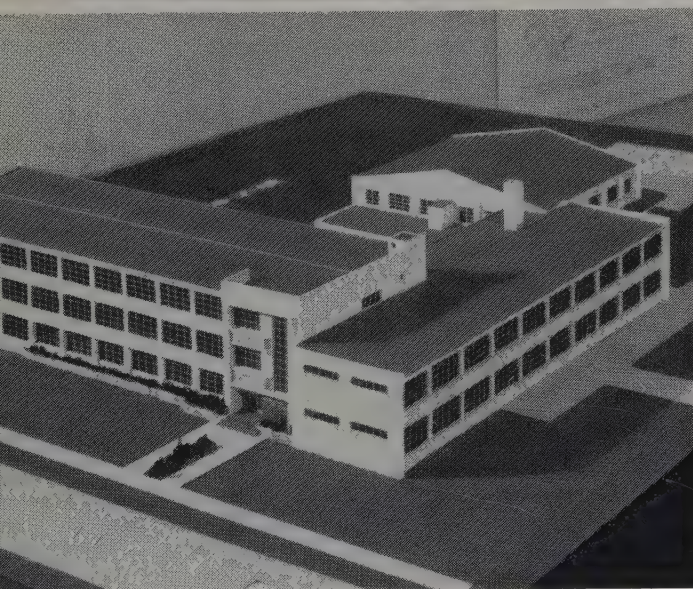




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THE ARCHITECTURAL INSTITUTE

If any architectural association or group desires to estimate the propaganda value of an exhibition of the work of architects they might well refer to the exhibition prepared by the Architectural Institute of British Columbia.

This exhibition was shown in the Vancouver Art Gallery at the beginning of February and from there it went to Victoria where it was displayed in the Rotunda of the Legislative Building. It was seen by a great number of people in both centres. In Victoria the Legislature was in session and Members of the Assembly took a special interest in it and some have asked whether it could be shown at other centres in the Province. As a consequence of such a request it is planned to send a large portion of the show to Vernon to be displayed at the Vernon-Okanagan Industrial Exposition.

In Vancouver the reception was particularly enthusiastic. While attendance records were not broken, the exhibition did attract people during most unfavorable weather in numbers equal to the largest crowds obtained at that time of the year. The Press was most favorable and co-operative, and the most ardent critics of architecture and of architects went out of their way to praise the work being done and the business-like manner with which it was presented.

Those who arranged the exhibition, the Council of the A.I.B.C., and members of the Institute at large were both pleased and surprised at the impact it made on the public. People saw that architects in British Columbia produced buildings which looked just as competent and good as those being produced elsewhere on the continent. They saw that the "local" architects designed and handled large multi-million dollar projects which included everything from industrial plants to housing schemes, as well as "monumental" structures. They were impressed with the display which used many large well made models, photographs and renderings arranged so that they were easy to appreciate and understand without a lot of chi-chi garnishes, obscurantist three-dimensional concoctions and other paraphernalia which architects have had a tendency to use recently in their exhibitions.

The British Columbia Editorial Board Committee of the *Journal* under the chairmanship of the writer, undertook the task of collecting the material and arranging the exhibition. The committee was enlarged to benefit from the able assistance of R. H. McKee, C. E. Pratt and Jocelyn Davidson. The submissions had to be combed as the space available was limited. The principle which controlled the combing was that all architects submitting work should be represented (provided that his work had been carried out when he was a member of the A.I.B.C.) and that beyond this the exhibition would emphasize what work architects are doing in British Columbia. In this way the illustrations and models shown were chosen for their architectural interest in relation to the different fields of architectural practice.

Illustrations were mounted on different coloured sheets of display board of standard size. The display broke down naturally into the following classifications, each classification using a different colour; residential, educational, recreational, industrial, commercial, re-modelling, religious, institutional and students' work. The use of a standard system of display and a judicious use of colours proved to be not only economical, but it unified the different sizes of pictures and it made the exhibit much more readable and palatable to the public. It, the public, was not confused nor was it bored as the changes in color and emphasis created by titles and models provided the necessary relief.

The lessons which may be learned from this exhibition are as follows:

1. Standardization and unification of display is essential for public understanding and appreciation.
2. Careful use of colour, models and titles provide all the added interest necessary at a minimum of cost.

OF BRITISH COLUMBIA EXHIBITION

3. Such exhibitions by the Provincial Associations and Institutes or by the Chapters can do more to raise the prestige of the profession with the public than any other means — especially legal ones.
4. These exhibitions will raise standards of architectural appreciation among the public and should be annual to be fully effective. The A.I.B.C. is planning to perhaps obtain a travelling exhibition for next years' show or it will illustrate some special architectural theme.
5. Architectural groups can, for \$100.00 to \$200.00, prepare simple exhibitions which will be of great interest to the public and of value to the profession. Publicity would be an extra charge, one which can be easily avoided by establishing good relations with the press and critics. Also extra would be the making of photostats or photographs from magazine illustrations. These need not be expensive and can be used to great advantage in public education.
6. One good model is worth twenty first class photographs, even if they are of twenty different buildings. More and more architects in Vancouver are finding the value of a competent model maker on the staff in helping to "sell" their designs.
7. It is essential, in spite of some bruised feelings, to keep out of the exhibition material and designs which offer an opportunity for public scorn and laughter. Due to the nature of our inventive and individual society so interested in "what is new", the public and critics will prefer to see advanced designs and even radical ones. This does not mean that good historical examples or good designs within the spirit of a historical style should not be included. A balanced exhibition should be presented but its success will be based upon the "progress" it represents, upon the lesson it can teach and the inspiration it can instill.

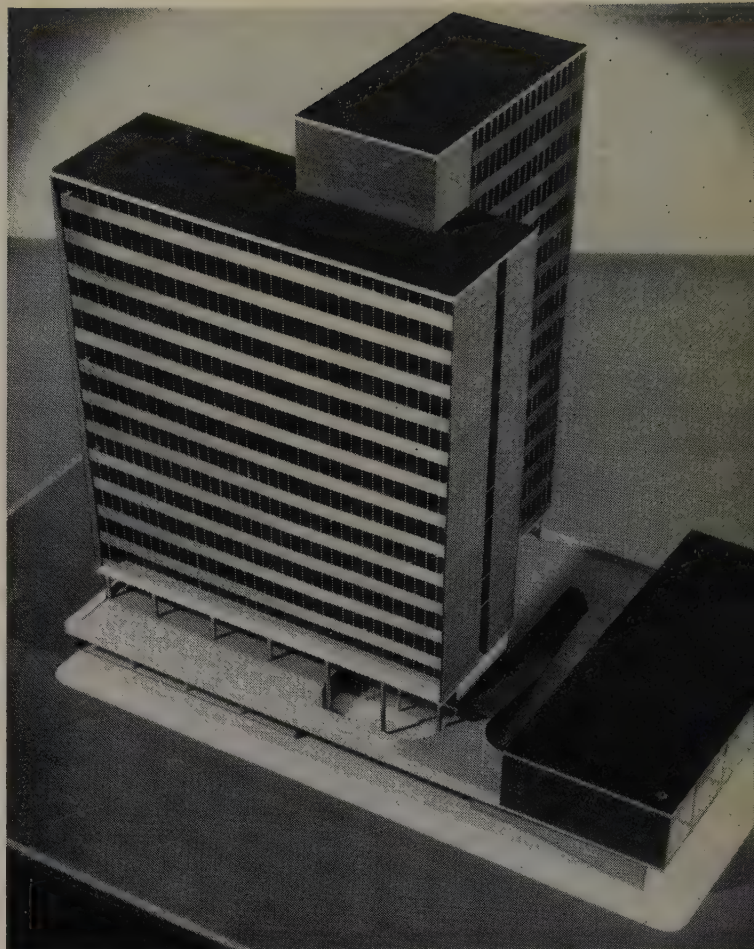
It was noted from the illustrations in the exhibition that the Architects in British Columbia were taking a greater interest in using structural members as a major element in their designs. The columns were being emphasized and the whole of the building was being subjected to the discipline of the column spacing. This required a greater study of column centres in relation to horizontal building elements so that proper proportions could be maintained.

It can hardly be said that this is a particularly "native" characteristic of west coast architecture since the English and lately the Swiss have been developing similar design disciplines. What is interesting to note is that more and more buildings in B.C. are searching for a dominant discipline or control within which the internal arrangements and minor elements of construction and plan may be left free to develop functionally and spatially. We see here a conscious effort to control use of modern materials and design elements as a healthy outcome of the prevalent aesthetic agnosticism.

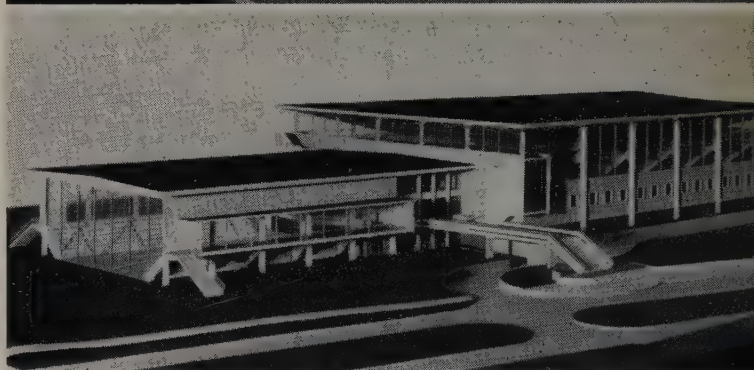
Fred Lasserre

1. Preventive Medicine Building. University of British Columbia. Sharp and Thompson, Architects.
2. Okanagan Valley Hotel. R. R. McKee, Architect.
3. John Oliver School, Vancouver, B.C. Mercer and Mercer, Architects.
4. Proposed Office Building, Vancouver, B.C. Sharp and Thompson, Berwick, Pratt, Architects.
5. War. Memorial Gymnasium and Swimming Pool for University of British Columbia. Sharp and Thompson, Berwick, Pratt, Architects; F. Lasserre, Consulting Architect.
6. Guardian Angel High School. Gardiner and Thornton, Architects.

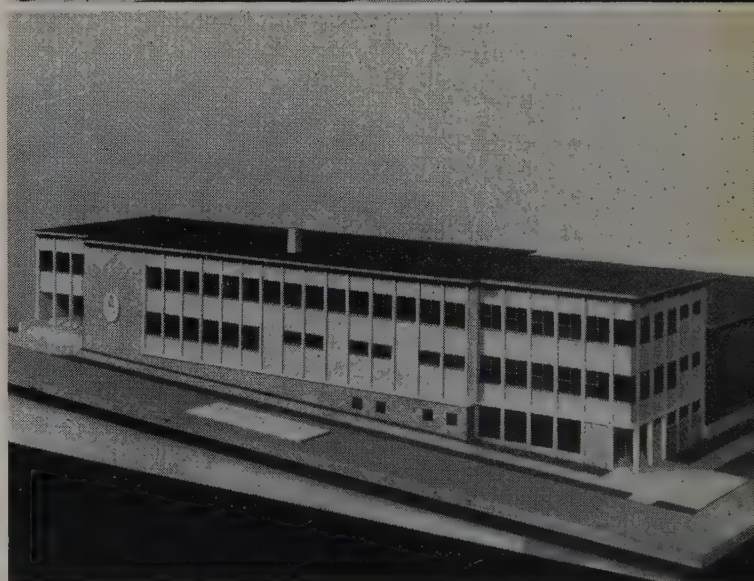
Photographs by Graham Warrington



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ROYAL ARCHITECTURAL INSTITUTE OF CANADA

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NEWS FROM THE INSTITUTE

1950 ANNUAL ASSEMBLY

It has long been the hope of the Executive Committee that an Annual Assembly of the R.A.I.C. might be held in one of the Western Provinces, and this hope will at last be realized next year. Arrangements have been made to hold the Forty-third Annual Assembly of the Institute at the Fort Garry Hotel, Winnipeg, on Thursday, Friday and Saturday, February 23rd, 24th and 25th, 1950. The Prairie Province Associations will act as hosts on this occasion, and the Manitoba Association of Architects will form the Committee of Arrangements to take care of the many details involved.

C.N.E. ARCHITECTURAL EXHIBIT

A very active and enthusiastic Committee of the Toronto Chapter of the Ontario Association of Architects, under the Chairmanship of Mr. George K. Pokorny, is now engaged in the preparation of an architectural exhibit for display at the Canadian National Exhibition, under the sponsorship of the R.A.I.C. This exhibit is primarily intended to illustrate to the public and the layman some of the services and the functions of the architect, and as such, will be an exhibition by the profession as a whole rather than a display of the work of individual architects. After the Canadian National Exhibition is closed, the exhibit will be taken over by the National Gallery as a travelling exhibition, and will be sent all over Canada for display.

STIPULATED SUM CONTRACTS

The desirability of a return to stipulated sum contracts has been under consideration by the National Construction Council and the Canadian Construction Association, at the instance of the R.A.I.C. representative on the National Construction Council. The C.C.A. advised the Council that they endorsed a return to firm prices, but they could not obligate their members to quote firm prices, if any particular member felt that he was not in a position to give such an undertaking. It is gratifying to note that the contractors' Association itself feels that the return to fixed sum contracts is in the best interests of the owner and the construction industry, and the Royal Architectural Institute urges its members to do all they can to permit the return to what, before the war, was considered to be the most satisfactory type of building contract from the point of view of all concerned.

ALBERTA

Rapidly growing cities such as Edmonton and Calgary have a multiplicity of increasing demands for more buildings and other necessary services which must be prepared for and undertaken ahead of time if severe

bottlenecks and delays are to be prevented. A short glance at some of these will show how formidable is the task.

The difficulties of the housing situation are universal and generally appreciated. They are being attacked from many angles but are a source of many troubles. Zoning bylaws prescribe certain areas for single family residence only. This is difficult to maintain and evasions of various sorts insinuate themselves. The whole segregation purpose of zoning is further endangered by pressure for the location of new industries.

A very vital requirement is that sufficient school accommodation be maintained. School trustees therefore must keep posted each year on the number of births, of the number of children coming in by immigration with their various ages and the number brought in for schooling only by residents outside the city. Estimates of these are available and must be carefully watched. These numbers present a formidable building program. The suitable location of the schools also requires careful consideration.

Incidental to this problem is the further provision for such recreation facilities as cannot well be provided in the school playgrounds including space for hockey, baseball and swimming. Recreation experts tell us that Edmonton should have ten more swimming pools. The increase in the number of adults requires more parks for other purposes.

Increased hospital accommodation is a necessary accompaniment of increased population. At the moment Edmonton has about caught up to requirements. In Calgary the shortage is severe; attention is being paid to this but the situation is serious whilst the shortage exists.

Hotel accommodation lags behind the increasing need for it. This is particularly the case in Edmonton where hotel space is said to be only sixty percent that of Calgary, where there is probably no surplus. Excessive prices asked for city property may be in large part responsible for this. This suggests some form of control over prices. They certainly bear no relation to the assessment for taxation.

New industries can generally find location because they can be located in relatively outlying situations but as these are rather haphazardly selected a rational distribution should be provided.

The above represents only a part of the flood of demands. They involve incidental services often of great cost. Extensions must be made to sewer, water, electrical power, gas supply, telephones. New roads must be built. Bypasses must be made for heavy and disturbing traffic, — a provision too apt to be neglected.

Where the crossing of rivers has to be made, serious bottlenecks will occur unless new bridges are built often at great expense.

There has never been a time when efficient unified control and well considered foresight over these matters was more essential. The need of this is far from generally understood or efficiently undertaken.

Cecil S. Burgess

BRITISH COLUMBIA

There seems to be some interest concerning how and why an architect lives, practises and has his several beings in a small town in the Interior of British Columbia. We have been asked to throw some light on this, and do so now with some trepidation.

It is felt that a scientific approach should be made to this whole matter, and in order to have some idea of the differences between the small town species and that found in the larger centres of population, we feel that the Comparative Table marked 1. below should be studied.

For the purposes of the table the following symbols will be used:

- (a) To denote the City Architect, C.A. will be used, while
- (b) Small Town Architect will be indicated by the symbol S.T.A. It is felt that this should be easily followed by both types of the species.

1.

- (1) The S.T.A. has a greater Bending Moment than the C.A.
- (2) The smile of the C.A. is a beam fixed at both ends, while the S.T.A. adopts the simple beam.
- (3) The Moments of Inertia of the S.T.A. occur oftener than those of the C.A.
- (4) Diagonal Tension is not so apparent in the S.T.A. as in the C.A.
- (5) The Ultimate Compressive Strength of the hands of the C.A. are found to be greater than those of the S.T.A.
- (6) The Modulus of Elasticity of the pocketbooks of neither is very great, neither is the Coefficient of Expansion expected to assume any great proportions.
- (7) Both the C.A. and the S.T.A. have their Moments of Deflection, but never when the appointment is important enough.
- (8) Concentrated loading is sometimes encountered in both habitats. This may be offset by observing City ordinances and by not trying to load up with too many ounces per two feet.
- (9) When either C.A. or S.T.A. have a female client, why cantilever?
- (10) For sheer joy of living, the S.T.A. shows up best in comparison and, oh boy, you ought to see his Radius of Gyration!

The foregoing should give us some idea of what we are up against, and now the simplest way to give as clear a picture as possible of the life of the S.T.A. (Small Town Architect, remember your table) is to give an idea of how he feels after an average day:

The firebell tolls the knell of parting day,
The pouting stenog biffs off to her tea,
The draftsman homeward wends his weary way
And leaves the room to darkness and to me.

Now fades the glimm'ring neon from the street,
The drafting room a solemn stillness holds,
Save where my H.B. drowsin' o'er the sheet
Another grizzly storefront now unfolds.

Now while the char so busily doth scour
And mopping, doth to the moon complain,
I, in my lovely most lone ivory tower
Think of a "Style" in somewhat "Modern" vein.

Beneath the rugged dome that hair did shade
Where heaves the bean in many a tousled heap
Each in their tiny brain cell ever laid
I find my ideas now forever sleep.

A surreptitious look at "Life" doth show
A "Modernistic" house from straw-built shed,
So then I draw. Another half a mo'
A frightful cowbarn springs from out my head.

For me no more the city lights shall burn,
Nor wealthy client ply me with cigar,
No draftsmen run to greet the boss' return,
I all alone grind out designs bizarre.

Oft does the S.T.A. his H.B. wield,
The furrows in the brow have ofttimes broke,
Why should he journey far afield,
When here he's more than just another bloke.

Let not ambition mock my simple toil,
My simple job, commissions slight decry,
Nor C.A. now with a disdainful smile
My small and simple triumphs all deny.

The boast of size, the multi-storeyed tow'r
And all the ornament that wealth e'er gave
Awaits alike th' inevitable hour
When atom bomb with fear will all enslave.

Can Grecian urn or modernistic bust
Back to its building call the fleeting style,
Can concrete mix be proved when all is dust
Where once there stood a stately Banking pile?

Perhaps in small towns may be laid
Some heart still pregnant with design divine,
Hands that with H.Bs. empires might have swayed,
It may be so but, boy, those hands ain't mine.

Full many a bloke of purest ray serene
The darksome alleys of the city bears,
Full many another still doth blush unseen
In small towns trying to purvey his wares.

Some village Lloyd Wright that with fearsome mind,
The little tyrant of his little field,
Some foul inglorious modernistic kind
May anywhere on paper H.Bs. wield.

Then one of knowledge guiltless do we find
The applause of listening schoolboards doth command,
He kens the words and the spell doth bind
While we poor mortals kick to beat the band.

His style is grim nor circumscribed by taste
Nor to his drawings are his crimes confined,
His specs put together from our own with paste,
None of us could e'er just bring the type to mind!

No struggling strife of City life doth hide
The small town bloke's quick blushes of great shame,
But soon he feels both Luxury and Pride
When in the local rag doth 'pear his name.

Far from the maddin' crowd's ignoble strife,
My smaller talents never wish to stray,
In cool sequestered country way of life
I'll gladly keep the tenor of my way.

The end with dirges due in sad array
Comes now to this most melancholy ode,
So soon you all may go upon your way
And leave me here in my small town abode.

EPITAPH

Here rests his head upon the edge of board
A bloke to Fortune and to Fame unknown,
Here in this small field would he fain be lord,
Here stays he in a small town on his own.

With due apologies to Gray and the "Journal".

Iain R. Morrison

ONTARIO

Upon entering the employ of practising architects, graduates of architectural schools are often rudely and abruptly turned from the idealistic course which they have set during school years. Convictions which seemed deeply rooted at graduation are forced into the discard, at least in part, when the practical and unsympathetic problems of practice are confronted. Many students adapt themselves to the easier road of almost complete compromise, but there are a few whose ideals die hard and who invite the censure of employer or client in a sincere effort to keep on the straight and narrow road of purism.

Acquaintance with drafting room and office practice during the months of summer employment soon indicates to students that architectural practise is not all glamour. Architects do not spend their time making elaborate drawings in a somewhat Bohemian atmosphere. The student soon finds that the practice of architecture also includes more mundane tasks which have little, if any, real relationship to his preconceived idea of architecture. He might even seriously ponder his decision to enter the profession when he is given

ordinary business office tasks to do in lieu of the job of designing, which probably, by this time, he is quite sure he can do. He takes a very detached view of specification writing and account checking, feeling that the specification writer is a sort of dull fellow whose job has no constructive value as far as building is concerned.

The student, then, at graduation is aware of the problems of practice, but his deep-rooted enthusiasm for the architectural concepts he has learned during the years of his formal training, lead him to believe that he can revolutionize the profession over night. This he finds to be a difficult and heart-breaking task.

With few exceptions, during the past, employing architects, who have been hardened over years of practical architectural application, were inclined to be unsympathetic towards the enthusiasm of the students, and their "new-fangled theories." "We built this way during the past and that's the way we will build now," was apt to be the stock, but not necessarily the right, answer to the students' natural query.

The past few busy years have brought about some change which should offer something in the way of encouragement to students. Volume of work and lack of qualified assistance has made it necessary for architects to rely on the judgment and knowledge of students. This increase in work, plus the ever important need for economy, has required that architects reassess their own capabilities in an effort to satisfy the ever-increasing need for improved planning and building techniques. Modern architectural school training, which has improved considerably over the past few years, is now providing students with a knowledge of architecture and its related sciences which, if applied properly, can be of real service to the profession. The student, as a result, is given more responsibility in practice, and gains a degree of confidence in his ability, which he has not been able to realize during the past.

Compromise, a word which most students do not like, is nevertheless the tempering medium which keeps much of our architecture on an even keel. The transition which we like to believe our architecture is undergoing often requires a degree of compromise, and the student is wise who learns to turn this compromise into advantage.

All of us, hardened though we may be to the rigors of practice, have upon many occasions been required to alter our convictions. Our carefully thought out plans have had to be changed. It is hard to admit, but at times necessary compromise has resulted in over all improvement.

A highly esteemed member of our profession, who has practised in Canada for many years, states that he derives a degree of stimulation from his association with students, and frankly admits that the influence of the younger minds has had a satisfactory effect upon his practice. It is to be hoped that practising architects will continue to encourage the students and to help them

gain a real confidence in themselves which they can acquire in no other way than by taking a responsible part in actual building problems.

Watson Balharrie

OBITUARY

ROY H. BISHOP

Roy H. Bishop, well known Toronto Architect, passed away at Sunnybrook Hospital, Toronto, on December 28th, 1948, after a three months' illness. Mr. Bishop was Architect for Dominion Stores Limited, with head offices in Toronto, and had designed many buildings for this Company throughout the Dominion. He was a veteran of both World Wars, having served from 1914-1919 with the Royal Canadian Engineers with the rank of Lieutenant-Colonel and saw service in France and Germany. He was wounded at Ypres and Arras and was twice mentioned in dispatches for outstanding work in tunnelling at Vimy and for bridge construction at Cambrai. In World War II, Mr. Bishop joined the R.C.A.F. in 1940. After a year as chief aerodrome control officer, Trenton, he was posted to Uplands to take over the tower during the filming of Captains of the Clouds. He served for a year in the North Atlantic as R.C.A.F. Conducting Officer, making 12 crossings.

Mr. Bishop received his early education in Toronto Public Schools and Jarvis Collegiate Institute following which he was associated with Darling & Pearson, Chapman & McGiffin, Sproatt & Rolph, and Chapman, Oxley & Bishop. Later, he practised Architecture in Toronto under his own name.

He is survived by his wife, Caroline Stewart Bishop, and two sons, Brian and Donald. He had been a Member of the Ontario Association of Architects and the Royal Architectural Institute of Canada since 1935.

John D. Miller

BOOK REVIEW

WINDOWS IN MODERN ARCHITECTURE by Geoffrey Baker and Bruno Finaro

Published by Architectural Book Publishing Company, 112 West 46th St., New York 19, N.Y., Price \$8.50.

This is an extremely useful book that no office should be without. A page or more is devoted to types which are shown in section plan and photograph. Drawings are details and to an easily readable scale. Text is adequate to explain the working of windows, but in addition there are sections on hardware, glass and the control of sun light and heat. The book is of a handy size (8½ x 11") with 144 pages of serviceable paper.

Editor

ON ARCHITECTURAL EDUCATION

(Continued from page 135)

I wish to conclude with a quotation from a much more conservative source: "The Report of the Special Committee on Architectural Education of the Royal Institute of British Architects." This report should be thoroughly

studied by all those interested in architectural education.

"Both pupilage and apprenticeship have since the beginning of the present century tended more and more to be superseded by full-time school training as the conditions of practice which once made them adequate as means of professional education have ceased to exist. They are likely, however, to linger on, possibly for another generation or so, until by the provision of scholarships or grants by the State or Local Authorities, all architectural students of ability who need financial help are afforded the assistance they require to enable them to receive a comprehensive training in a Recognized School of Architecture.

"The true cardinal aims of architectural education, as the Committee sees them, may be quite shortly and simply stated. They are: —

- (a) to present architecture as an art satisfying both aesthetic and material needs;
- (b) to lay a sure foundation in the essential subjects of architectural knowledge;
- (c) to maintain a due balance of studies, liberal — aesthetic and historical — as well as technical and professional;
- (d) to integrate those studies which are complementary to each other;
- (e) to relate theoretic teaching to practice;
- (f) to develop, through constant exercise and discipline, creative capacity in design;
- (g) and to do all this in such a fashion that the whole field of studies is vitalised for the student and revealed as opening up further regions of knowledge for future, post-graduate exploration.

The graduating architect should "in his own person embody the attributes of three different beings, the man of the world, the man of culture and the artist who creates, for human use and enjoyment, buildings that are convenient, well-constructed and beautiful."

1948-49 attendance at Canadian Schools of Architecture:

	Beaux Arts	B.C.	Manitoba	McGill	Toronto
I Year	7	36	38*	26	71
II Year	12	35	75	39	52
III Year	14	20	89	41	64
IV Year	9	7	62	20	62
V Year	7	7	17
Post Graduate	3
	49	98	267	133	266

*First year of new five year course.

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The Editorial Board wishes to express its indebtedness to **Mr. Fred Lasserre**, for the trouble he has taken in organizing the material for this issue.